POPULAR Computing WEEKLY

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Vol 4 No 18

New BBC out now

ACORN'S new £499 BBC B Plus micro (see *Popular Computing Weekly* April 25) should be available in the shops this week

The company has apparently been building up stocks of the machine for some time, but delayed the announcement until it was confident it could meet demand

"The new machine is not intended in any way to be a replacement for the BBC B," said an Acorn spokesman

The company does not intend to develop new software specifically for the Plus which will not run on the BBC B "New software which takes advantage of the extra memory will not depend on it to run," he added

The B Plus is intended as a refined version of the standard BBC B model It has the same operating system and BBC Basic combined on to a single chip, an enhanced disc interface, and disc utilities such as formatting are now built-in The extra 32K Ram is divided between 20K of shadow screen Ram and 12K of paged Ram. Modes 128 to 135 are the shadow screen Ram equivalents of Modes 0 to 7

Additional disc filing commands include *Format, Verify, Free, Mat, Roms* and *Drive.*

At the same time Acorn has



The BBC B – no price change?

firmly denied that it has any plans to reduce the price of

continued on page 4 ▶

C64 price drop ruled out

COMMODORE UK's new general manager Nick Bessey spoke out last week against any possible price cuts on the Commodore 64

"We will not be cutting the price of the 64 within Commodore," he said. "The product should be sold at around £200, and I believe it can justify that price"

He was speaking in response to claims by Boots and Laskys that they were considering dropping the Commodore 64 because of the recent high street price war including a swingeing price cut for the Plus/4 (see *Popular Computing Weekly*, April 18)

"I see the Commodore 64

Nick Bessey

as being our major product at least until 1986, but I have sympathy with the retailers' position – if I were in their place I would be concerned about Commodore's marketing programmes We urgently need to work with the high street, and will shortly be showing them our marketing plans for the year"

Replying to the claim that the price cut on the Plus/4 from £299 99 to £149 99 had made the 64 look like a bad buy, Nick said, "The market has not been enthusiastic about the Plus/4 I don't see the machine as being a major theme of Commodore's, though we want to continue software support

"The Plus/4 could do with improvement in the Rom – having done that we will reconsider its position Last year it was felt that bundled software would be a hit, but what has been shown is that people are more concerned with compatibility"

He also denied any possibility that the forthcoming C128 might replace the 64

"The C128 is being aimed

continued on page 4 ▶



FAR LEFT Ultimate has released its second Commodore 64 title, *Entombed*, a sequel to *Staff of Karnath*

Entombed at £9.95 is an arcade adventure with high resolution 3D graphics and complex puzzles

LEFT *Dun Darach*, the sequel to the critically acclaimed *Tir Na Nog* is now nearly completed. The game involves a number of characters as well as hero Cuchulainn

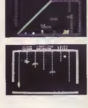
INSIDE) SHADOWFIRE AUTHORS IN VIEW) C64 SWEET TALKER)

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As if all these problems were not enough there are a number of other items that Harry will need to find and use to be able to complete the task. Things like ladders, bits of girders, keys and many more.

Chuckie Egg 2 contains 120 screens, plenty of surprises and it is a true Arcane/Adventure game : *you don't just find things you actually move them and use them.*



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POPULAR Computing WEEKLY

Vol 4 No 18

View

Recent reports have suggested that Chris Curry and Hermann Hauser are unhappy with the way things are going at Acorn, following its takeover by Olivetti.

Yet things seem to be carrying on much as before

The new Acorn BBC B Plus at £499 is as overpriced as any previous Acorn product. Just who is going to pay £500 for a 64K 8-bit micro? A poser, is it not? Especially when Atari's new 130XE uses the same processor chip, offers 128K Ram and costs only £170 – around one third of the price

Further, the BBC B Plus' price tends to indicate that the machine is to sell alongside the present BBC B and that the long hoped-for price cut of the older machine from £400 will now not happen.

In fact, the launch of the £500 B Plus may well herald the end of Acorn as a serious force in the home computer business.

With such a blinkered pricing policy – BBC name or not – the B Plus will fail in what one presumes is its main objective to tide Acorn over until the software compatible 16-bit version of the BBC can be produced

Instead the B Plus will be greeted by universities and research laboratories in industry as no enhancement of what is already a very successful development tool. Here the BBC's excellent interfacing for control applications and the Plus' extra Ram and the additional Rom socket will be welcomed. And Acorn may sell a few thousand

Either Olivetti shows the same understanding of the home market as the 'old' Acorn demonstrated or the company is deliberately attempting to pull Acorn out of the dangerously volatile home computer arena

Presents...

Futures...

Arcade action in our QL Star Game ... the Spectrum Compiler concluded ... and a machine code alarm clock for the Amstrad

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How to submit articles Articles which are submitted for publication should not be more than 3000 words long The articles and any accompanying programs should be original It is breaking the law of copyright to copy programs out of other magazines and submit them here — so please do not be tempted **Accuracy** *Popular Computing Weekly* cannot accept any responsibility for any errors in programs we publish although we will always try our best to make sure programs work

Computer Trade Association Magazine of the Year

Beyond names Monolith as arcade games label

BEYOND's new arcade software label, first announced in March, is to be called Monolith.

The first two releases will be *Rockford's Riot*, the sequel to *Boulderdash*, and *Quake-1*, a shoot-'em-up written by Mike Singleton and Warren Ffoulkes, using the landscaping techniques pioneered in *Lords of Midnight*.

Rockford's Riot will also feature the original *Boulderdash* on the flip side.

It will be for the Commodore 64 and Spectrum initially, with Amstrad and Atari versions to follow. *Quake-1* will run on the Commodore 64.

Monolith will be a 'high-quality label' claimed managing director Bill Delaney.

Monolith games, likes those released on the Beyond label, will sell for £9.95.

The next new game to be released under the original Beyond label will be *Elindor*, a fantasy epic inspired by *Lords of Midnight*.

"It will be more than just a graphic adventure – it's obviously a game aimed at our *Midnight* followers, in a similar game vein, but it is original in its own right," said Bill Delaney. The game design has been approved by Mike Singleton, but he has taken no part in the programming of it – instead game design and programming are by two seventeen year olds, Simon Welland and Nick Eastock.

New BBC in shops this week

◄ continued from page 1

the BBC B from £399. "Acorn will not be cutting the price on existing products," commented the spokesman.

The B Plus will be on show at the Electron and BBC Micro User Show held on the New Horticultural Hall, London SW1 on May 9.

Sinclair cuts production

SINCLAIR has admitted it has had to cut back heavily on computer production as sales to distributors and retailers since Christmas have been disappointing and the value of unsold stocks has increased almost three-fold to £34m the last nine months.

Sir Clive says that Sinclair Research's overdraft is now only around £5m on an annual turnover of £100m-plus and that he hopes a deal can be done to further reduce the overdraft, possibly involving the marketing of the flat screen tv under another company's name. An American company has apparently already approached Sinclair with this in mind.

● Sinclair is now claiming sales of 90,000 for the QL, which is due to be launched on mail-order in the US this week.

C64 cuts ruled out

◄ continued from page 1

at people who know the 64 and feel they can use the extra memory – while we see it as an important product it is in no way intended to replace the 64.

"The compatibility is the most important feature which is why we're aiming it at the up-graders. We plan to sell the basic model first and then offer the 128D version with a disc drive built-in later."

The C128 will be shown for the first time in the UK at the Commodore Show in June, but Nick was unwilling to give a definite release date.

"I am confident we can deliver the machines in quantity for the last four months of the year – in fact before September if possible. But it is important to get our relationship with the high street retailers back to last year's footing by supplying in quantity."

Nick also dismissed suggestions that the C128 at around £315 might be affected by the Atari 130XE at £169.90.

"We will not be influenced by the sabre-rattling of our competitors – frankly, the C128 is not similar to the 130XE – it's in a class of its own."

● There will be a full interview with Nick Beasey in next week's magazine

Tandata buys QL modem rights

TANDATA has come to the rescue of QL owners and bought the existing stocks of the QCom modem.

The QCom QL modem package was previously manufactured by OEL, which went into receivership in March (see *Popular Computing Weekly* March 21).

Tandata which will now take over selling QCom has also acquired the rights to produce the QCom package and the rights to sell Scicon's communications software which is bundled with QCom. "We are now only waiting for BT approval on QCom," said a spokeswoman for Tandata. "The approval procedure was put in abeyance when OEL called in the receiver, but it shouldn't take too long. The product only needs its approval number to be given, before we can begin sales and production."

The spokeswoman stressed, however, that Tandata had not bought other OEL products which include the Spectrum VTX5000 modem and a telextext adaptor for Channel 4.

New games, new boss at Melbourne

WAY of the Exploding Fist – a joystick-controlled martial arts simulation – will be the next release from Melbourne House.

The arcade-style game will be launched next month for the Spectrum, Commodore 64 and Amstrad priced around £8-£9.

It is also the first title to be announced by Melbourne House's new UK managing director.

Geoffrey Heath

Geoffrey Heath, formally Activision UK's chief has moved across to take charge of Melbourne House's UK operation, which was previously controlled from its Australian headquarters.

"I was asked to get Activision up and going in this country, and I like to think I did okay," said Geoffrey.

"With Melbourne House, I am determined to raise the company's profile considerably – its product certainly warrants it. While it has been acclaimed for adventure titles I want to open up its whole range – so you can expect more arcade games along the lines of *Starion*."

New micro series on BBC

THE BBC's latest vehicle for promoting computer literacy and the BBC micro is the new children's television series, *Whizz*, a puzzle-based program featuring computer software.

Aimed at 5-7 year olds, it uses a futuristic setting, the Space Place, inhabited by a female droid, Whizz, a computer called Voice and a rather strange looking Bug to pose various brain-teasers aimed at improving youngsters' learning skills, many using commercially available software for the BBC micro. Producer Pippa Dyson commented: "A lot of children of this age group have access to a computer either at home or at school, so we included an element of this in the program."

Software to be used includes BBC Publications' own *Maths with a Story* and *Sort* by Mirrorsoft. Four other titles have been commissioned from CRL who are marketing them in twin packs, *Space Shapes/Runaway Rocket* and *Crazy Cows/Cosmic Containers*, under licence from the BBC. They will be available from next week for the BBC and Electron priced at £8.95.

Whizz is being broadcast on Fridays at 3.55 pm.



Second 2000 AD hero becomes micro game

JUDGE DREDD, Megacity One's leading lawman, will soon be joining *2000AD's* other great cartoon hero, Strontium Dog, on your computer.

Games Workshop has now gained the rights to produce an arcade game based on the cartoon character from the 2000AD comic magazine The company already has a *Judge Dredd* board game but gained computer rights in a separate deal

"The game will be a high speed joystick-driven maze game set in Megacity One," said Angus Ryall, Games Workshop's software marketing manager

"We will probably include a map screen which the player can call up to show where the player is in the city"

The Judge Dredd arcade game is scheduled for release on the Spectrum in the Autumn

Atari founder bytes cat

A NEW type of micro driven robot is due to be launched in the US in August – the Petster

Petsters are the latest brainchild of Nolan Bushnell, founder of Atari, who also developed the Androbot robot range

A Petster is a robot cat Made of fur the battery operated device miaous and purrs to order and can be programmed to respond to hand claps or noises to move back and forth, avoiding obstacles

If left on its own for any length of time, the Petster will go into one of a number of moods at random, such as playfulness or going to sleep. It will switch off at night and 'wake up' when it gets light

Long term plans for the Petsters see them as rather more than novelty toys With additional sensors and software, the Petsters could be programmed to react to burglars or fire in the house, and raise the alarm if necessary

As toys, however, the Petster will be available in two models, the basic 'miaou and purr' version at around $50, and a deluxe model at $70 to $100 The latter can be programmed to respond to up to 48 commands

Petsters are set to reach the UK next Christmas

Linkword follows up

FOLLOWING the success of the Linkword language learning series, a second range of Linkword titles will be available soon

"The new series will take users up to 'O' level standard, using the same linking of words to mental images as the first series," said Dr Michael Grunenberg, the Swansea University psychologist who developed Linkword

Dr Gruneberg hopes the advanced level packages can be used within schools as well as by the home user

The first 'O' level Linkword program to be released will be *French*, published by Protek for the Spectrum at £12 95

Letters

Cat and mouse

It appears that Michael Sleight (Letters, April 18) has also hit the 'nail on the head!'

The computer industry today suffers from a lack of thought and consideration towards buyers. Micro manufacturers instead are too busy engrossed in cat and mouse games. They seem only interested in producing new micros designed to compete with rival manufacturers products. Why don't they stop and take some time to find out what kind of computer people actually want?

Cetin Munir
32 Stapleton Hall Road
Stroud Green
London N4

Disconnected C5 'trikes'

When are you and all the other computer magazines, going to stop using your valuable newsprint for news and articles related to the Sinclair C5 Electric Tricycle.

Please note

The maker of this machine is Sinclair Vehicles, not Sinclair Research (the ones who make computers), the C5 is neither a computer, nor contains a computer.

Yet the title of your publication suggests that the content, should be, computers.

I bet, in the computer world, hardly anyone really cares about this unconnected venture by Sir Clive.

Malcolm S Collins
Ventura Software
7 Heath Drive
Chelmsford
Essex

You'd be on a loser is you asked any of the several hundred people who entered our C5 competition, the results of which are printed below.

List disable

If you don't want anyone to be able to list your Basic programs and you own a BBC try typing in this small procedure at the beginning of your program.

What will happen, is that when the program is run, and then the *Break* key is pressed during the time that the program is in operation, *Old*, *List*, and *Run* will produce the error message Bad Program

```
1 CLS
2*FX200,2
3*FX220,0
4!&FE00=&1020AA
```

Good heavens – It's Monolith software

Of course the program must not have an *End* or *Input* statement in it otherwise it is possible to list the program. Lines 2 and 3 disable *Escape*.

Daniel R Gush
Fairmead Gardens
Redbridge
Essex

Check again

With reference to my article Memory Check which appears in the April 18 issue, there is an error in the second sentence of the penultimate paragraph in column 1.

The sentence should read "It then takes the first two bytes and converts them to the Line number by PEEK (Byte 2) + 256 * PEEK (Byte 1), note that this is a reversal of normal Z80 practice. The second two bytes (PEEK (Byte 3) + 256 * PEEK (Byte 4)) give the number of Text bytes plus one for Enter."

It would also be advisable to add that the symbol £ appears in the program but should be interpreted as #

H Hipple
17 Ayrshire Road
Liverpool

Milder version

While playing with Ver 2.00 Quill on the QL recently I noticed that the loading Boot program is different to that on the old Ver 1.00.

In Ver 1.03 the program uses the Respr, Lbytes, Call sequence while Ver 2.00 uses the Exec-W keyword which is used to load multi-tasking machine code programs. This seems to suggest the possibility of running Ver 2.00 Quill with other machine code programs including Easel, Archive and Abacus.

Edward Fenman
7 Kenneth Court
173 Kennington Road
Kennington
London SE11

C5 competition Results

Future perfect

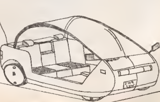
The response to our C5 competition (*Popular Computing Weekly*, 14 March) was quite overwhelming – both in numbers and the amount of work many of the contestants had put into their design for the Sinclair electric car of the 1990's.

The panel of judges – from both *Popular* and Sinclair Vehicles – whittled down the several hundred entries to a shortlist of seven before choosing the outright winner and they included both some extremely innovative ideas and a stack of often beautifully drawn pictures.

Alistair Prior developed a clever credit-card locking mechanism for his car of the future. Neil Hewlett designed a complete range of vehicles – bus, taxi, hatchback and saloon. W Wray incorporated the flat screen tv as a standard feature. And Clive Burke nearly wrote an encyclopedia on his creation.

However, there could only be one winner from the short list and the judges unanimously selected the entry by 15-year old Steven Salmon, of Rayleigh in Essex. The judges said of his design: "Excellent, very imaginative overall – most of his proposals are at least vaguely viable."

A C5 will soon be on its way to Steven Salmon.



...7 busy [illegible], 10 lost [illegible], 19 hours, 41 Traffic Wardens, 55 London Tube Stations, 146,700 square feet of London, 7 million Londoners ... [illegible]

PAUL McCARTNEY'S *Give my regards to*

BROAD STREET

When the music stops, the mystery begins...

MIND GAMES







Instead of computers catc
technology now has to ca



The way we see it, technology has quite a race on its hands.

There's no other home computer in the world that's so expandable or so updatable as the new Enterprise 64.

And if you're wondering quite how we've managed that, kindly take a closer look at all the outputs on our remarkable new machine

You'll notice that amongst the usual sockets and terminals we've incorporated a special 66-way expansion port.

This will accept a whole range of new peripherals that are now in the pipeline.

Including those that are a mere twinkle in the eyes of our hardware designers

We thought this expandability principle was such a good idea, we applied it to the Enterprise's memory, too

Even in its most basic 64K form, this puts more user RAM at your disposal than almost any other competitor

In colour

Program *Lightmagic* **Price** £14.95 **Micro** Spectrum 48K **Supplier** New Generation Software, The Brooklands, 15 Sunnybank, Lyncombe Vale, Bath BA2 4NA

Of all utilities, graphics packages have to be the most popular, with some attaining relative fame. *Lightmagic*, the latest contender, could be set to leap to the top.

The first thing to emphasise is that, despite a multitude of single key commands, *Lightmagic* is easily understood thanks to its sensible menu system. Options include eight direction line drawing and banding, plus circles and fill, a brush mode with ten patterns, including a random spray gun, block mode which allows movement, mirroring, etc of sections of pictures, text mode and UDG mode. UDGs are created with an integral, versatile designer, to be used in finished pictures along with alphanumerics.

Various aids are provided, such as the very necessary superimposed grid that helps avoid colour clashes, and a return cursor to reference point facility, useful for starting several lines from one place. Finished artwork can be saved to tape or to a buffer, which encourages experimentation as previous versions of a picture can always be recalled. Sadly there's no printer option and the potential of this package could lead one to wish for hard copy. However documentation is admirably clear and *Lightmagic* should provide hours of pleasure.

John Minson

Just junk?

Program *Junkyard Jalopies* **Price** £1.99 **Micro** Commodore 64 **Supplier** Scorpio Gamesworld Ltd., 307-313 Corn Exchange Building, Manchester 4

In *Junkyard Jalopies*, Jim is out to do what we all like doing best – make money. To do this, he collects old automobile parts from the junkyard and puts them together to make new "cars". What a little earner!

First, though, you have to guide Jim to the junkyard. This isn't very difficult as you end up only having to jump three barrels. However, when Jim reaches the junkyard, matters are not so straightforward. He has to avoid the deadly rust monster and a weird creature made entirely from remoulds. A couple of bombs also need to be defused within the time limit.

Like other platform games, you can walk and jump as you explore the two-screen scrapyard. An intricate series of lifts must be used to reach the higher levels. After he had collected the parts, our hero drives over to the garage to sell his car. Then it's back to a harder junkyard (barrels to jump as well) with more parts to collect.

As you may have gathered it's pretty much your standard *Manic Miner* derivative and is therefore hardly original.

I must say that I found *Junkyard Jalopies* rather boring. The game seemed to lack inspiration, with rather slow gameplay and dull graphics.

Tom Bussey

Frog fun

Program *Gribbly's Day Out* **Micro** Commodore 64 **Price** £7.95 **Supplier** Hewson Consultants Ltd., Hewson House, 56b Milton Trading Estate, Milton, Abingdon, Oxon.

Gribbly's Day Out is aimed at the younger game-playing generation.

Gribbly, the hero is a full-grown Blabgorian. Entrusted to his care are the baby Blabgorians, known as Gribblets. The hills surrounding their lands are infested with mutant creatures whose favourite delicacy is little Gribblets. So you have to control Gribbly in his quest to rescue the innocent Gribblets and return them to the safety of the caves. To make matters worse, you must also avoid Seon, the insane spider who is unable to control his homicidal tendencies. Gribbly is able to bounce, fly and even blow bubbles at some of the nasties.

The graphics for this game are excellent. Some of the landscapes are truly beautiful with great details and superb colour schemes. I especially like the Gribbly smiles when you're doing well, and then grimaces when you make a mess of things. I can recommend *Gribbly's Day Out* to all you youngsters of whatever age.

Tom Bussey

Dr who?

Program *Doctor Who and the Warlords* **Micro** BBC **Price** £9.95 **Supplier** BBC Publications

The kindest thing that could be said about the first attempt to immortalise the Doctor in computer game form is that it was quite some time ago, and best forgotten. But just enough of the dire memory lingers on to underline the very considerable improvement in this latest effort, a text-only adventure which if it lacks the special effects of the TV series, has a very definite character and humour of its own.

You, the player, are the Doc's companion when the Tardis lands on the planet of Quantain, to find a land in the last throes of a lengthy civil war. The Doctor insists (as usual) in getting involved in the troubles this time because his old friend King Varanger may be in danger. But you get separated in the confusion and, when you wake up from the effects of a stunning blow to the head, you are alone near the battlefield with only a two way radio to your name and no idea where the Doc has gone.

Wandering around the terrain can be a very risky business with your own natural greed as a treasure-seeker (that isn't the main aim here, and it can be fatal) as much a danger as anything else. There are some very curious booby-traps scattered around and brigands lie in wait for unwary travellers.

But a little ingenuity will stop you being blown-up, robbed and/or torn to pieces by suspicious royal bodyguards and will even get you some comfortable transport and an escort into the City. Or nearly into it. Even if you work out this route, your troubles are far from over and, despite signs of the royal favour, you will need to keep your wits about you to save yourself, the Doctor and the situation.

A scenario with good descriptions and some nice touches of humour. This time voyage is worth the trouble.

Barbara Conway

Right tracks

Program *The Tracer Sanction* **Micro** Commodore 64/disc drive **Price** £19.99 **Supplier** Activision, 19 Harley House, Marylebone Road, London NW1

The Tracer Sanction is very similar in layout and presentation to Activision's other new disc adventure, *Mindshadow*. However, the two games have totally different plots.

In *The Tracer Sanction*, you take the role of a tracer – an interplanetary secret agent. The adventure starts in your boss's office. He assigns you a new mission – to catch the famous criminal, "the wing". Nobody knows what the wing looks like nor where he is. With this minimal dossier, you set out on a trail which will probably cover most of the galaxy.

It's probably a bit easier to make progress in *The Tracer Sanction* than in most other adventures, but that's not necessarily a bad thing. Sometimes, adventures get a bit too frustrating. What I liked about this one is that you can try virtually anything at any location, though you may have to suffer some wry comments from the computer. For instance, try "waiting" and you get the sarcastic response "Amazingly, the galaxy goes about its business". So much better than the usual "You can't do that here", eh?

It has to be said though that this is a typically American adventure. I mean, what British adventure would contain the description "It smells like old sneakers in here"? However, like its sister game, *The Tracer Sanction* is certainly a good adventure and well worth playing.

Tom Hussey

Fast facts

Program *Microspread* **Micro** CPC 464 **Price** £49.90 **Supplier** Amsoft, Brentwood House, 169 Kings Road, Brentwood, Essex CM14 4EF

This spreadsheet has been written by a different company to *Microscript* and *Micropen*, also put out through Amsoft and it certainly shows in the manual which, although lacking frills, contains all necessary information in an accessible form and has even been written with some evidence of humanity!

Another wonder for this range is the screen *Help* menu which summarises all available commands. What it does have in common with the others is that the emphasis is quite strongly on the ability to produce documentation and reports from the data – the program can be used as a basic word processor for producing letters and so on that have selected rows, columns and labels from the spreadsheet inserted into them. It's a nice feature.

Surprisingly, the spreadsheet itself does not take advantage of disc filing – each sheet fills 15K with a maximum of 560 cells – this makes it faster that I expected but also throws it into much closer competition with the new spreadsheet written by Campbell Systems for Amsoft. The latter has some very nice touches which perhaps make it a better mainstream utility, and it is also cheaper. *Microspread* however is stronger on block commands and, of course, text, which will be just what some people are looking for. The formula options did strike me as a bit strange by offering functions such as *ArcCos* but not *Log* but its a small point. Files produced by the sheet can be used to drive the *Micrograph* business graphics program in the same range but this was not available for review.

Tony Kendle

Reports

Program *Micropen* **Micro** CPC 464 **Price** £49.90 **Supplier** Amsoft, Brentwood House, 169 Kings Road, Brentwood, Essex CM14 4EF

This CP/M database will justify itself to most people more through its ability to exploit files as large as there is free room on the disc rather than any particular sophisticated facilities. About 80K is free per side of disc on a single drive system which is quite reasonable.

The aspect of *Micropen* that will make attractive to some is that it can exploit discs to allow data to be manipulated and injected into pre-set forms.

The whole package provides a cheap entry point for report writing, mail merge, invoicing, whatever, with better printer control than is possible with masterfile alone. However competition will come from the forthcoming Tasword that will allow mail merge in conjunction with Masterfile data.

Tony Kendle

Hollywood

Program *Blagger Goes to Hollywood* **Price** £9.95 **Micro** Commodore 64 **Supplier** Alligata Software Ltd., 1 Orange St., Sheffield S1 4DW

Time for some cinema action! You've seen *Superman 3* and *Rocky 3*, now it's the turn of *Blagger 3*.

Blagger has decided his way to fame and fortune is in the movies – not as an actor, but as a producer. But once inside Hollywood's famous film studios, he finds himself in conflict with some of the stars from the big screen.

The studios are drawn out in 3-D you must find the right prop in each. Great music is included from the appropriate films to give you clues on the props.

My favourite character is Jaws. He rushed around complete with authentic doomy music. Whereas the graphics were good, I thought that a few more features could be added to the film sets. Still, the game involves fast action and brain power. Can't be bad.

Tom Hussey

Wargames

Program *Theatre Europe* **Price** £9.95 **Micro** Commodore 64 **Supplier** PSS, 452 Stoney Stanton Rd, Coventry CV6 5DG

You could say that to put the old Hippy Anthem 'Give Peace a Chance' on a wargame called *Theatre Europe* in which you fight a Russian Invasion of Europe is kind of schizophrenic to say the least

Politics and taste apart though the game is pretty special, probably one of the best wargames we've yet seen with lots of maps, status lists and even screens of nuclear explosion. The game has a horrible realism derived from its firm basis on actual military and political structures – there's even a bibliography at the back of books on the subject

Playing the game is mainly a matter of joystick control and you can be either Nato or Warsaw Pact – though this doesn't mean that the game is easy to play and insubstantial – you definitely need to read the manual

If being a non wargame purist you opt for the Action screens you get a short arcade game where you launch missiles and kill things – it's not state of the art but it's O K. Then the other side gets its turn It gets more complicated - you can choose to launch special missions to achieve special ends and, ultimately, go nuclear even to the point of launching everything you've got.

Graham Taylor

Formula One

Program *Pole Position* **Price** £9 95 **Micro** Commodore 64 **Supplier** US Gold Ltd, Unit 10, Parkway Industrial Centre, Heneage St, Birmingham B7 4LY

Back to that old favourite, *Pole Position* this time marketed by US Gold As I'm sure you know, this is the original Grand Prix game that began the racing car craze in the arcades Now, of course, it's been surpassed by video machines like the TX-1 and others, but you can still find this "old-time" in most arcades. The Commodore 64 conversion is very similar to the original – though, with slightly inferior graphics

In addition to a practice session, there are three different races you may enter – Monaco Grand Prix, Nemon Speedway and the Datasoft 500 The training run gives you a chance to practise driving the car around the course without any opponents Before you can enter one of the three races, you must enter a qualifying round to gain a place on the starting grid (your position will depend on the lap time). Then the race (you can choose the number of laps) begins The screen shows the view from the car as if you were actually seated behind the steering wheel The joystick can be used for moving left/right, accelerating and slowing down, and swapping between high and low gears The handling of the car is very good. It's great fun tearing past a car on the outside of a bend at 200 mph Just the stuff for people with nerves of steel.

Tom Hassey

Disappointing

Program *Pinball Wizard* **Price** £5 95 **Micro** CPC 464 **Supplier** CP Software, 10 Alexandria Road, Harrogate HG1 5JS.

The first time I heard of pinball on home computers it struck me as weird choice of game to write I've since come round to the opinion that it can be marvellous fun – if well programmed it can play as well as a conventional machine but add all sorts of animated or zappy screens to play that couldn't possibly be created in real life – all in the comfort of your own home

Unfortunately *Pinball Wizard* represents a wasted opportunity As you so often find with average quality software they have done all the hard bits but completely forgotten the small details that can make a game a joy to play In this case they have got the movement of the ball off perfectly but have let it down by surrounding it with dull pedestrian features There is only one, boring screen with the absolute minimum of flashing lights etc and only the barest of sound effects It should, and could have been full of zaps and pows and all sorts of amazing things happening that would have driven lesser mortals from the room in seconds

Pinball Wizard could have got by as a budget title but for six pounds you could find a lot more worthwhile things to spend your money on, for example going to play sixty games of pinball!

Tony Kendle

Exotic

Program *Super Pipeline 2* **Price** £9.95 **Micro** Commodore 64 **Supplier** Taskset Ltd., 13 High Street, Bridlington YO16 4PR.

Ages ago, when *Super Pipeline* was first released, it was a truly excellent game. It combined neat graphics with great sound effects. Now, the follow-up, *Super Pipeline 2* is in the shops. This is one follow-up that was certainly worth waiting for.

In case you didn't see the original, the game action is as follows. All you have to do is keep a pipeline in good working condition until it has filled the barrels at the bottom of the screen. Simple, eh! Well, not quite. You control Foreman Fred. To fix any leaks in the pipeline, he has to grab one of the two obedient workmates and take him to repair the damage. The trouble is the pipeline runs through many hostile lands populated by evil insects and vicious tools. These have to be avoided or shot as contact with them is fatal. Fortunately, the workmen are expendable, when one is killed a new one starts running round. (In fact, a good tactic is to use the workmen as shields from the baddies. How ruthless can you get?)

Once you've filled the barrels, it's on to the next network of pipes. Between screens, the odd bit of cartoon action takes place. On one, a workman smashes up a Sinclair C5 with a mallet.

Compared with the original, there are a lot more nasties, so the gameplay involves much more dodging and shooting. The graphics have also been improved and a few extra features have been added. In short – mad, hectic, chaotic fun! I can't wait for Super Pipeline 3

Tom Hussey

Fast loader

Program *Microdrive Fast-Load* **Price** £3.99 **Micro** Spectrum **Supplier** Specialist Programs

Microdrive Fast-Load is, according to its cover, 'the key to your microdrive'.

You start by connecting up to eight drives with cartridges inserted. You then load *Fast-Load* from cassette, though it can be duplicated to cartridge. After a short wait a screen appears, listing all files present in the left hand section. top right are the various functions and below them is an area for prompts.

These include erasing a selected file, initialising a cartridge, wiping all old information; listing all the files and/or sending the list to a printer, displaying file type (*Basic* or code), size and other details, checking the cartridge capacity and finally downloading a chosen file.

All of this is carried out very smoothly and *Fast-Load* does all that it claims. My main reservation is how useful it really is. If you think that it is and you're careful not to crash it, then this utility should satisfy.

John Minson

Bad hobbits

Program *Bored of the Rings* **Price** £5.95 **Micro** Spectrum 48K **Supplier** Delta 4 Software, The Shielding, New Road, Swanmore, Hants SO3 9PE

I admire honesty. I admire Delta 4 for admitting that they've been forced to parody a certain trilogy by J R R T*tk**n because somebody else owns the rights. From this situation has arisen a game with an odd atmosphere, in part humorous spoof, in part serious epic fantasy adventure.

Certainly the former shouldn't offend anybody but the most po-faced hobbitophile. Indeed there's much to enjoy here, such as the fact that the only reason you take the ring is you're too stupid to avoid it. But the quest itself, which stretches over three programs, is challenging and atmospherically written.

Interestingly it's all been produced with the *Quill* and *Illustrator* and to excellent effect. The typeface is suitably archaic, and the pictures are far better than those of the *Hobbit*, which it frequently parodies.

There's an added bonus, if that's the right word, of a spoof bulletin board on the final side of the tapes, much of which claims to have been removed for legal reasons.

Even if it's not 100% successful, and the tone is uncertain at times, it's better than many adventures and the price is extremely reasonable. So if the idea of 'ASCII runes' appeals or you can't wait for the official adaptation, don't hesitate from buying.

John Minson

Doubled-up

Program *QL Super Backgammon* **Price** £15.95 **Micro** QL **Supplier** Digital Precision, 91 Manor Road, Higham Hill, London E17 5RY

Backgammon simulations have, I think, largely suffered through poor screen display: often the screen just isn't big enough to depict the 'daggers', background and counters all in different colours without the whole thing looking messy.

Digital Precision has more or less succeeded, with red background, black and white daggers, green and grey counters.

The game itself is straightforward bog-standard backgammon – you have an option to let the computer roll dice for you, or you can roll your own and input the result. I have only played the former, I would have been far too tempted to cheat otherwise.

I have no idea how the difficulty levels are graded, since I thrashed the computer repeatedly on level 4 (the most difficult) and struggled to win on level 1. The computer's idea of tactical play is distinctly at variance with my own, but then, how relevant are tactics in a game reliant on the dice?

However, the game does allow for fast input of moves by keeping key presses down to a minimum, which is a relief, but there's no doubling cube, not even as an option. The computer is also a stubborn beast and refuses to resign – or let you resign – even when it's plain who will win, which can lead to some very tedious bearing off sequences, and the congratulatory winning screen is liable to give you migraine.

Like all board game simulations, it's useful for a rainy day, when no-one else wants to play, but is not a patch on the real thing.

Christina Erskine

The Mersey byte

***John Cook** visits England's second city to meed the brains behind Beyond's Shadowfire – Denton Designs*

I've always had a healthy respect for anything vaguely Liverpudlian Brookside, the Spinners and Emlyn Hughes notwithstanding that is on the basis that any city with a spare cathedral, a spare football team and its own dialect of the English language definitely knows what it is doing And perhaps it's not surprising that the same north-western hotbed of creativity that took the music biz to its heart all those years ago has produced a fair crop of 'software stars'

Denton Designs formed out of the chaos of the Imagine collapse just under a year ago is working on a new approach to games creation "The Dutch talk about total football – at Denton we talk about total programming " So says Denton's Steve Cain

Denton is about the nearest thing to an anarcho syndicalist programming commune that I have yet come across – the credits on their latest opus ran to twelve persons – but it's an approach that definitely works, as does the mix of programmers and artists within the company It may not be run of the mill, but then, something radical was called for when six of the *Bandersnatch* 'megagame' team suddenly found themselves out of work in a big way

Now, installed in its HQ in the shadow of cathedral number two near the famous Lime Street station, with one minor hit already ((*Gift from the Gods* for Ocean) together with some solid conversion work, and now the revolutionary adventure game *Shadowfire*, things are a bit different

If anything, it is the *Shadowfire* project – the idea which started the company off in the first place – that incorporates all of the elements that have made Denton successful so quickly Originality great graphics, technical excellence and teamwork

Shadowfire is an icon-driven adventure (absolutely no text input) in which you control a 'super-team' of five characters whose mission impossible type task is to rescue a hostage from the clutches of the evil General Zoff

I spoke to Dave Colclough (Commodore programmer) and Steve Cain (artist) who were largely responsible for the finished product – although Steve was quick to mention that everyone in the company had contributed to some extent "We're not isolated teams," he explained "We're like a big family here, including the arguments!"

So who had the idea for using icons in an adventure? Steve again "There were always a lot of crazy ideas knocking around at Imagine Ian Weatherburn had the idea for some sort of adventure with icons When Imagine crashed we took it to Beyond, and they told us to go ahead."

However, *Shadowfire* has gone through several incarnations since then, originally the game had some text input – and only four team members "The brief changed as it developed. We felt the overall team need more balance, so we created Sevrina – a female thief We hope it gives the game a wider appeal "

The game scenario is set in a futuristic hi-tech world with cyborgs, time machines, and transporter beams not unlike the equipment used to create it! I asked Dave to describe the various large black boxes in front of him

"We use Sage micros as development machines ' he told me "This one's a Sage IV It has a 68000 chip running at eight MegaHertz – effectively about eight times faster than a home micro " Other statistics include one MegaByte of Ram, together with twelve Megs worth of memory on hard disc "It's not just that it's faster," Dave explained "If you're writing for more than one machine, you can use a cross-assembler to assemble the source code – one that has the same syntax for both machines – and then download into the target "

Dave, like the rest of the Denton programmers, had no formal computing experience before picking up on home computers – initially he studied naval architecture, while John Heap (Spectrum *Shadowfire* programmer) taught himself Z80 code while on the dole. The arts side of Denton on the other hand, are all ex-Liverpool School of Art I asked Steve how technically they made the transition from other forms of art to computer graphics?

"You tend to learn very quickly or you don't learn at all. The same principles of design apply you've just got different limitations – size, shape, colour and resolution."

So how do they start designing on screen images? "The girls (Ally Noble an ex-graphic designer and Karen Davis previously specialising in textile design) prefer to design on graph paper before putting it on-screen I use a graphics tablet connected to the Sage – and then download the data to the target machine," said Steve

The results, as seen on *Shadowfire* are unusually good – and there is yet another unusual aspect of the game yet to be released – A 'tuner' program that will allow the player to alter the strengths of the team and the opposition, which started life as in house utility An invaluable aid for those who like to dissect their games byte by byte

But what does the future hold for Denton Designs after *Shadowfire*? Their next 'biggie' is *Frankie Goes to Hollywood* for Ocean, now in its final stages, and then some more conversion work. "Conversions are a waste of ability and creativity really," said Steve, "but they do pay the wages!"

Shadowfire II is in preliminary design stages with great promises of character animation. Three of the original team will survive to fight the next mission but which three? (My money is firmly on Sevrina.)

The project after that will be a joint Denton/Beyond venture, which Steve promises to be "a cross between Rollerball and Squash " I can't wait.

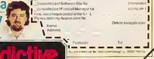
What comes across most when chatting to the Denton team, is their enthusiasm for writing and designing their games They enjoy what they're doing and they do it very well, Combined with their firm ideas on how a business should be run – without fast cars – expect to hear a lot more of Denton Designs







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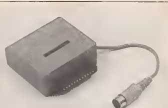


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Hardare Review

Unfriendly

Product *Cheetah Sweet Talker* **Micro** Commodore 64 **Price** £24 95 **Supplier** Cheetah Marketing, 24 Ray Street, London EC1



Sweet Talker didn't have many sweet nothings to whisper to me – it's a classic example of "you get what you pay for", since it's probably the cheapest speech synth on the market but also offers the least in the way of user-friendliness

Like other products, such as the Speech 64 from DK'Tronics/Currah, Sweet Talker comes in the form of a cartridge which plugs into the back of the C64, with a connecting lead to the audio/video socket

Speech is synthesised by modulating an output signal with a filter designed to reproduce the sixty or so 'allophones' which can be combined to reproduce English words

This is certainly preferable to having a limited preset vocabulary of digitally recorded real sounds, but the disadvantage is that allophonic speech synthesisers sound like British Rail announcers gargling yoghourt

Sweet Talker might still have been worth having since it's partly the unreal speech sounds which make voice synths so much fun, but in order to keep costs down the chip used has not been supplied with any extra firmware In other words you have to load the driving software every time you want to use the Sweet Talker, and when you want it to speak you have to type in strings of numbers rather than words. After typing in the short loader program, or loading it from the tape provided, words are entered in the form of data lines – for instance *DATA* 50,18,13,15,0, – 1 would, when run, make the synth say cheetah, since these are the code numbers for the allophones *CH, IY, TT, A,* Pause, End.

It's all a lot simpler with the rival Speech 64, where there's no software to load and the interpreter lets you just type in 'cheetah', and gets on with the job of selecting and voicing the allophones itself.

The manual supplied with Sweet Talker is sketchy to say the least A list of all the allophones available and their code numbers is given, but there are few suggestions on how to incorporate the unit in your own programs (though the demo routine on tape does illustrate some possible uses) There is no mention made of using machine code, and no prospect of any commercial software using the system.

Overall, it's hard to see Sweet Talker being very popular Why settle for such an unfriendly device when there are better ones available for only a little extra outlay?

Chris Jenkins

Take it easy

Hardware *Slomo Program Speed Controller* **Micro** Spectrum/Commodore 64 **Price** £14 95 **Supplier** Nidd Valley Products, Stepping Stone House, Thistle Hill, Knaresborough, N Yorks.

Some arcade games start off at such a speed that it takes time to adjust to the controls How pleasant if all games could take you slowly up from gentle beginnings The Slomo is designed to do just that, as it slows down the processing in an infinitely variable sweep from normal speed, through dead slow to completely frozen. Some people may regard it as an unfair method to cheat your way to high scores, though this it certainly one use for it.

The Slomo is available for several different computers and I have been looking at the Spectrum version, which plugs into the user port At the other end of a short cable is a little black box with one rotary speed control and two push buttons, labelled 'Slow Motion' and 'Freeze Frame' I tried it first on *Decathlon* and managed to do a little better than usual.

If, like me, you wish your reactions were a little faster in some games, and can cope with accusations of cheating, this could be just what you're after

John Scriven

Keeping contact

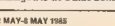
Hardware *Power Switch* **Micro** Spectrum/Electron **Price** £4 95 **Supplier** Rainbow Electronics Glebe House South Leigh Witney Oxon

What's the difference between a BBC micro and an Amstrad, and an Electron or a Spectrum? Apart from a hundred and one other things, one small but irritating difference is the absence of an on/off switch Most owners of the afore-mentioned machines are probably used to unplugging the power cables, but this undoubtedly increases wear and tear on the contacts, which will eventually wear out, particularly with a micro like the Spectrum that doesn't provide a hard reset

Rainbow Electronics is one of several firms to produce an in-line on/off switch This consists of a small black case about 8 × 4 × 3 cm, with a rocker switch and LED on the top

What more can I say? – it works very well and £4 95 is a small price to pay compared to the expense of getting a power socket replaced

John Scriven



Horse of the Year

A clear round for *Graham D Walkden* with this show jumping simulation for the BBC B

This is a two player game in which the object is to guide your horse over a course of show-jumping fences in the shortest possible time There are five different types of fence, The Water Jump, The Bush Jump, The Double Bar Jump, The Water and Bush Jump, and The Wall They differ in size so require different tactics

Type in the program as it appears in the listing (Disk users set *Page* to *&1100* first and on no account press *Break*, as this will mean goodbye to all your typing) Save it in case of power-cuts, accidental *Break* pressing etc, then type *Run*. You will be greeted by the title page and the theme tune. If the tune drive you potty then press *Escape* and type **FX210 1* then *Run*, and the tune (and all other sound for that matter) will be no more

When you choose the play option the tune will cease (so unplug the cotton wool) and you will be asked how many screens you want per round Choose any number between 2 and 9 and the game will start. You control the white horse at the top left hand side of the screen by using the following keys *A* -accelerate, *Z*-brake/reverse, *Return* jump

The parabolic trajectory of the horse depends on its speed at the take-off point. The faster the horse is going, the further it will jump Great skill is required when calculating the jumping speed as the 5 different fences require different approach speeds (The Bar Jump requires two seperate jumps at slow speed). When in the air you cannot control your horse, which is logical because short of equestrian retro rockets there is no way you can alter its speed



```
>LIST
   10REM Horse of the Year.
   20REM (c) 1984 Graham D. Walbden
   30:
   40*FX9,6
   50*FX10,6
   60IFPAGE>&1100VDU7,7:PRINT"PAGE should be set t
o &1100 '":END
   70PROCchars
   80MODE2:VDU22,7,23;8202;0;0;0;
   90PROCvars
  100PROCinit:CLS
  110CLS:y=5:d$=CHR$131+CHR$141+"How many screens
 per round ? (2-9) ":FORt=1TO2:PROCtelex:NEXT
  120maxl%=max%-1
  130REPEAT INPUTTAB(0,10)max%:PRINTTAB(0,10);"
 " UNTILmax%>1ANDmax%<10
  140FORpl%=1 TO 2
  150x%=0:cp%=40:y%=790:scrn%=1
  160CLS:y=10:d$=CHR$141+CHR$130+"Press any key pl
ayer "+STR$pl%+"  ":FORt=1TO2:PROCtelex:NEXT:A=GET
  170MODE2:VDU23;8202;0;0;0;
  180PROCscrn
  190GCOL0,0:*FX15
  200sp%=40:ct%=0:pl%=p%:y%=790:time%(pl%)=0:REPEAT
  210IFjp%=1THEN240
  220IFINKEY-66ANDsp%<40 sp%=sp%+4
  230IFINKEY-98ANDsp%>=-20 sp%=sp%-4
  240IFx%<1040ANDy%<800ANDsp%<0 sp%=0
  250VDU5:MOVEx%,y%:PRINThorse$(p%):VDU4:x%=x%+sp%
  260c=ct%/(9-(INT(SQR(ABS(sp%))))):IFc=INT(c)ANDjp%
=0 SOUND0,4,c(sp%(p%),1:SOUND0,4,c(sp%(p%)),1
  270GCOL3,7
  280IFINKEY-74ANDjp%=0ANDsp%>0 jp%=1:j%=1:IFRND(9
-c1%)>1 PROCrefuse
  290p%=pl%
  300IFjp%=1 PROCjump
  310IFx%>1150 x%=0:y%=y%-220
  320IFx%<0 ANDy%<600 x%=1000:y%=y%+320:ref%=0
  330IFx%<0 x%=0:sp%=0
  340GCOL3,7:VDU5:MOVEx%,y%:PRINThorse$(p%):VDU4
  350IFPOINT(x%-4,y%-60)<>0 ORPOINT(x%+110,y%-60)<
>0 PROChit:GCOL3,7
  360IFc<>INT(c) THEN370
  370IFp%=1 p%=2 ELSEp%=1
  380IFsp%>0 ORjp%=1 p%=1
  390IFsp%<>0 ct%=ct%+1
  400IFy%<300ANDx%>1100ANDscrn%<>max% scrn%=scrn%+
1:CLS:PROCscrn:x%=0:sp%=40:y%=790:GCOL3,0:jp%=0:re
f%=0
  410time%(pl%)=time%(pl%)+1:COLOUR129:COLOUR3:PRINT
TAB(14,0)time%(pl%);" ":COLOUR128
  420UNTILref%=3 ORscrn%=max%ANDy%<300ANDx%>1100
  430FORt=0TO100STEP5:SOUND1,1,2*SOUND2,1,t+10,2
:SOUND3,1,t+20,2:NEXT
  440VDU22,7,23;8202;0;0;0;
  450y=4:d$=CHR$141+CHR$133+"Player "+STR$pl%+" yo
ur time was "+STR$(time%(pl%))+" ":FORt=1TO2:PROCtele
x:NEXT:y=y+1:IFc1%=1 d$=CHR$141+CHR$135+CHR$136+"Y
ou had a clear round  ":FORt=1TO2:PROCtelex:NEXT
  460IFref%=3 d$=CHR$141+CHR$136+"YOU WERE DISQUAL
IFIED !":y=10:FORt=1TO2:PROCtelex:NEXT:TIME=0:REPE
ATUNTILTIME>400:CLS:PROCinit:GOTO110
  470*FX21,0
  480jp%=0:A=INKEY(300):NEXT:*FX21,0
  490CLS:IFtime%(1)=time%(2)d$=CHR$141+CHR$133+CHR$1
36+"A dead heat ! Commencing jump-off ":y=10:FORt=
1TO2:PROCtelex:NEXT:A=INKEY(200):CLS:GOTO110
  500IFtime%(1)<time%(2) d$=CHR$136+CHR$141+CHR$130+
"Player 1 is the winner by "+STR$(time%(2)-time%(1))
+"." ELSEd$=CHR$136+CHR$130+CHR$141+"Player 2 is t
he winner by "+STR$(time%(1)-time%(2))+". "
  510y=8:FORt=1TO2:PROCtelex:NEXT
  520PROCinit:GOTO110
  530DEFPROCchars
  540VDU23,224,3,3,2,3,2,15,31,63
  550VDU23,225,4,15,31,104,112,224,224,240
  560VDU23,226,240,240,48,16,8,4,6,0
  570VDU23,227,127,63,55,51,64,128,128,0
  580VDU23,228,3,3,2,3,2,15,31,63
  590VDU23,229,4,15,31,104,112,224,224,240
  600VDU23,230,240,240,48,16,32,64,128,0
  610VDU23,231,127,63 56,51,0,4,2,0
  620VDU23,232,144,186,84,69,40,40,16,16
  630VDU23,233,16,16,16,56,100,198,230,254
  640VDU23,234,16,56,16,0,0,0,0,0
  650VDU23,235,0,0,0,0,145,219,255,255
  660VDU23,236,0,0,0,0,18,182,254,254
  670VDU23,237,0,0,24,60,60,62,126,126
  680VDU23,238,0,0,0,0,0,0,0,12
  690VDU23,239,30,47,63,127,127,127,62,0
  700VDU23,240,126,254,254,254,126,24,24,24
  710VDU23,241,255,131,189,189,157,189,181,255
  720VDU23,242,255,136,173,173,173,173,168,255
  730VDU23,243,255,149,181,145,213,213,149,255
  740VDU23,244,0,126,126,126,126,126,126,0
  750VDU23,245,127,127,127,127,127,127,127,127
  760VDU23,246,3,3,2,3,2,15,31,63
  770VDU23,247,4,15,31,104,112,224,224,240
  780VDU23,248,240,240,48,16,8,4,6,0
  790VDU23,249,127,63,56,19,0,4 6,0
  800DIMhorse$(2) horse$(1)=CHR$224+CHR$225+CHR$10
+CHR$8+CHR$8+CHR$227+CHR$226:horse$(2)=CHR$228+CHR
$229+CHR$10+CHR$8+CHR$8+CHR$231+CHR$230
  810s$=CHR$232+CHR$8+CHR$10+CHR$233
  820DIMjump$(6)
  830jump$(1)=CHR$17+CHR$3+s$+CHR$17+CHR$6+CHR$235
+CHR$236+CHR$17+CHR$3+CHR$11+s$:jump$(2)=CHR$17+CH
R$7+s$+CHR$17+CHR$2+CHR$11+CHR$237+CHR$238+CHR$10+
CHR$8+CHR$8+CHR$240+CHR$239+CHR$17+CHR$7+CHR$11+s$
  840jump$(3)=CHR$17+CHR$3+s$+CHR$17+CHR$2+CHR$11+
CHR$237+CHR$10+CHR$8+CHR$240+CHR$17+CHR$6+CHR$235+
CHR$236+CHR$17+CHR$2+CHR$11+CHR$238+CHR$10+CHR$8+C
HR$239+CHR$17+CHR$3+CHR$11+s$
  850jump$(4)=CHR$17+CHR$1+CHR$17+CHR$2+CHR$10+S
TRING$(3,CHR$244+CHR$244)+CHR$11+CHR$8+CHR$2)+CHR$1
7+CHR$128:jump$(5)=CHR$17+CHR$1+s$+CHR$17+CHR$7+CH
R$11+s$+CHR$11+"      "+s$+CHR$11+CHR$17+CHR$1+s$
  860ram$=CHR$17+CHR$2+STRING$(2,CHR$245)
  870fin$=CHR$17+CHR$11+CHR$17+CHR$140+CHR$241+CHR
$242+CHR$243+CHR$17+CHR$128
  880DIMtime%(2),x(5):ch%=0 sp%=40:p%=1:FORt=1TO5:R
EADx(t):NEXT
  890DIMjp%(20):FORt=1TO19:READjp%(t):NEXT
  900IFRclep%(2)=clep%(1)=12:clep%(2) 14
  910ref$=CHR$246+CHR$247+CHR$10+CHR$8+CHR$8+CHR$2
49+CHR$248
  920ENDPROC
  930DEFPROCscrn
  940COLOUR7:COLOUR129:PRINTTAB(0,0);"PLAYER  ";"
TIME ";time%(pl%);SPC(4-LEN(STR$(time%(pl%))):COLOUR128
  950COLOUR3:COLOUR129 PRINTTAB(7,0)pl%:COLOUR128
  960FORt=1TO29STEP10 PRINTTAB(0,t)land$
  970IFy%>750j=RND(4)
  980IFy%<750 j=RND(5)
  990PRINTTAB(t,j),t-2);jump$(j)
 1000NEXT
 1010IFscrn%=scrn% PRINTTAB(17,22)fin$
 1020ENDPROC
 1030DEFPROCvars
 1040x%=0:y%=790 time%(1)=0:time%(2)=0:scrn%=1:jp%=0
:c1%=1:pl%=1:cl%=1:ref%=0
 1050ENVELOPE1,4,0,0,0,4,4,4,0,0,-5,-5,126,126:ENV
ELOPE3,1,1,1,1,4,4,4,0,0,1,1,126,126
 1060ENVELOPE4,1,0,0,0,1,1,1,-12,-12,-12,-12,126,1
2
 1070ENDPROC
 1080DEFPROCjump
 1090y%=y%-jp%(j%):j%=j%+1:IFj%=20 jp%=0
 1100ENDPROC
 1110DEFPROChit
 1120IFx%<100ORTIME<200 ENDPROC
 1130TIME=0
 1140IFc1%<6 c1%=c1%+1
 1150time%(pl%)=time%(pl%)+20
 1160VDU19,0,7,0;0;SOUND0,-15,10,8:TIME=0:REPEATU
NTILTIME>10:VDU20
 1170ENDPROC
 1180DEFPROCrefuse
 1190IFy%>790 ENDPROC
 1200ref%=ref%+1
 1210VDU5:GCOL0,0:MOVEx%,y%:PRINThorse$(p%):GCOL3
,7:MOVEx%,y%:PRINTref$
 1220COLOUR0:VDU4:PRINTTAB(6,11)"REFUSAL  "
 1230SOUND1,3,100,1:SOUND2,3,102,1:TIME=0:REPEATUN
TILTIME>200 *FX12,0
 1240jp%=0 sp%=0:A=GET:PRINTTAB(6,11);"          ";
VDU5
 1250GCOL0,0:MOVEx%,y%:PRINTref$:VDU4
 1260ENDPROC
 1270DATA5 0,7,9,5
 1280DEFPROCtelex:a=(40-LEN(d$))/2:PRINTTAB(a,y);d$;
y=y+1 ENDPROC
 1290DATA-20,-20,-20 -16,-16,-12,-8,0,0,0,0,0,0,12
,16,16,20,20,20
 1300DEFPROCinit
 1310d$=CHR$141+CHR$157+CHR$129+"****"+CHR$132+"Ho
rse of the Year"+CHR$129+"****  "+CHR$156:y=1:FORt
=1TO2:PROCtelex:NEXT
 1320y=y+2:d$=CHR$131+"By Graham D. Walbden":PROCt
elex
 1330y=12:d$=CHR$141+CHR$130+"Press"+CHR$131+"I"+C
HR$130+"for instructions or"+CHR$131+"P"+CHR$130+"
to play"
 1340FORt=1TO2:PROCtelex:NEXT
 1350ENVELOPE2,1,0,0,0 1,1,1,-3,-3,-3,-3,126,126
 1360REPEATa,b:IFa=-10 ORb=-10 RESTORE:FORt=1TO24:R
EADa:NEXT:READa,b
 1370SOUND1,2,a,b/1 5:SOUND2,2,a+1,b/1 5
 1380a=INKEY(0):IFa=80 ENDPROC
 1390IFa=73 PROCins:CLS:GOTO1330
 1400GOTO1360
 1410DATA89,5,89,5,89,10,77,5,77,5,77,10,97,5,97,5
,97,5,89,5,81,5,77,5,69,10,77,5 77,5,77,10,61 5,61
,5,61,10,61,5,61,5,77,5,69,5,61,5,57,5,69,10,97,5,
97,5,89,5,81,5,77,5,69,5,61,10,77,5,77,5,77,20,61,
5,61,5,61,10,81,5,81,5,81,5,81,5
 1420DATA81,5 81,5 69, 0,89,5,89,5,89,10,77,5,77,5
,77,10,97,5,97,5,97,5,97,5,97,5,97,5,81,10,53,5,53
,5,53,10,41,5,41,5 41,10,41,5,41,5,41,5,57,5 45,5
41,5,33 10,41,5 41,5,41,10,25,5,25,5,25,10,45,5,45
,5,41,5,33,5,25,5,21,5,13,10
 1430DATA97,5,97,5,89,5,81,5,77,5,69,5,61,10
 1440DATA-10,-10
 1450DEFPROCins
 1460VDU22,7,23;8202;0;0;0;:COLOUR14:PRINTTAB(4,2)
;"INSTRUCTIONS"
 1470PRINT''':FORt=1TO4:PRINTTAB(9);jump$(t)'' :NE
XT
 1480x=11
 1490COLOUR7:PRINTTAB(x,8);"WATER";TAB(x,13);"BUSH
ES";TAB(x,18);"MIXED";TAB(x,23);"WALL"
 1500COLOUR11:PRINTTAB(4,28);"PRESS ANY KEY":a=GET
 1510VDU22,7,23;8202 0;0 0;:d$=CHR$131+CHR$141+"KE
YS :":y=0:FORt=1TO2:PROCtelex:NEXT
 1520y=y+2:d$=CHR$131+"X"+CHR$129+"to speed up.":P
ROCtelex:d$=CHR$131+"Z"+CHR$129+"to slow down.":PR
OCtelex:d$=CHR$131+"RETURN"+CHR$129+"to jump ":PRO
Ctelex
 1530y=y+2:d$=CHR$130+"The Z key may also used to
reverse ":PROCtelex
 1540y=y+3:d$=CHR$133+CHR$141+"Press any key ":FOR
t=1TO2:PROCtelex:NEXT:a=GET:ENDPROC
```

The name game

Keep all those names and addresses on tape with this useful program by ***Andrew Dagnall***

This program is an address book program for the Commodore 64 The program will let you input Name,Surname,Address in full, Post Code, Home Telephone No and Work Telephone No The address then has to be labelled residential or business by using keys (R)or(B) respectively When you run the program you will be presented with a Menu

Input – the cursor will appear under Name waiting for your input, type in the name, then press *return* When *return* is pressed the cursor will jump to the next label. Enter required details (address, etc) using the same method Repeat for all labels.

Change – you will be asked to enter one item of data, ie name, surname, post code, home number or work number

If no details are know then just enter *R* or *B* to find all entries under Residential or Business respectively If the file found is the one you wish to change, Press *C* then the display will change to the input mode

To change any details, overwrite existing details, any characters after the cursor will not be entered when return is pressed. Any details you do not wish to change, just press *return*. To leave any of the details blank, enter a space then press return.

When all details have been entered, press *C* to re-change or *return* to continue You will then be asked to enter *F* to find any more files you wish to change or *return* for Menu

Find – To find an address you will be asked to enter one item of data as for change Use *F* to find more data or *return* for Menu.

Save – When you have finished with the program, if you have changed any files press F7 to save data to tape

Before the program is used for the first time, *save* program as listed, then change Line 10 to *DimA$(200,9) Goto 80* then run. Enter some addresses and save the data on tape

On all subsequent uses the program can be loaded and run as listed

Program Notes

Line No	
10-50	Read data from tape
60-80	Set variables and sound.
90	Routine to simulate print at.
100-200	Input routine
210-420	Up date screened at.
430-810	Print file card with labels.
820-1258	*Input* and *Change* routines
1260-1550	*Find* routine
1560-1700	Menu
1710-1790	Save data to tape

```
10 DIMA$(200,9)
20 OPEN1,1,0,"ADDRESS DATA"
30 INPUT#1,Y
40 FORI=1TOY FORJ=1TO9 INPUT#1,A$(I,J) NEXTJ,I
50 CLOSE1
60 CS$="                                        "
70 CC$="▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬" PRINTCHR$(8)
80 POKE54296,6 POKE54272,0 POKE54273,50 POKE54277,0 POKE54278,
   240 GOTO1560
90 POKE781,Y POKE782,X SYS65520 RETURN
100 POKE198,0
120 M=1 L$="" IFA$(Z,T)=""THENPRINT"■ ■" GOTO140
130 PRINT"■",LEFT$(A$(Z,T),1)"■"
140 GETM$ IFM$=""THEN140
143 IFM$=","ORM$=":"ORM$=""ORM$="<"THEN140
144 IFM$="■"ORM$="■"ORM$="■"ORM$="■"ORM$="■"ORM$="■"ORM$="■"
    THEN140
145 IFM$=CHR$(13)ANDLEFT$(L$,1)=" "THENL$="-----------"
150 IFM$=CHR$(13)ANDM=1THENL$=A$(Z,T) IFL$=" "THENL$="-----------"
160 IFM$=CHR$(13)THENPOKE54276,33 FORD=1TO50 NEXTD POKE54276,0
    RETURN
170 IFM$=CHR$(20)ANDM>1THENM=M-1 L$=LEFT$(L$,LEN(L$)-1) PRINT
    "■ ■" GOTO140
180 IFM$=CHR$(20)THEN140
190 IFM>LTHENPOKE54276,33 FORD=1TO50 NEXTD POKE54276,0 GOTO140
200 L$=L$+M$ M=M+1 PRINTM$,"■" GOTO140
210 Y=7 X=2 GOSUB90
220 PRINTLEFT$(CS$,16)LEFT$(CC$,16)"■"A$(Z,1)
230 Y=7 X=20 GOSUB90
240 PRINTLEFT$(CS$,18)LEFT$(CC$,18)A$(Z,2)
250 Y=10 X=11 GOSUB90
260 PRINTLEFT$(CS$,27)LEFT$(CC$,27)A$(Z,3)
270 Y=13 X=2 GOSUB90
280 PRINTLEFT$(CS$,36)LEFT$(CC$,36)A$(Z,4)
290 Y=16 X=2 GOSUB90
300 PRINTLEFT$(CS$,36)LEFT$(CC$,36)A$(Z,5)
310 Y=21 X=2 GOSUB90
320 PRINTLEFT$(CS$,12)LEFT$(CC$,12)A$(Z,6)
330 Y=21 X=15 GOSUB90
340 PRINTLEFT$(CS$,11)LEFT$(CC$,11)A$(Z,7)
350 Y=21 X=27 GOSUB90
360 PRINTLEFT$(CS$,11)LEFT$(CC$,11)A$(Z,8)
370 Y=3 X=35 GOSUB90
390 PRINT"■" Z,"■"
400 Y=3 X=14 GOSUB90
410 PRINT"■",A$(Z,9),"■"
420 RETURN
430 X=1 Y=2 GOSUB90
440 PRINT"▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬"
450 Y=3 GOSUB90
460 PRINT"■ FILE DETAIL          FILE NO    ■"
470 Y=4 GOSUB90
480 PRINT"
490 PRINT"
500 PRINT"
510 PRINT"
520 PRINT"
530 PRINT"
540 PRINT"
550 PRINT"
560 PRINT"
570 PRINT"
580 PRINT"
590 PRINT"
600 PRINT"
610 PRINT"
620 PRINT"
630 PRINT"
640 PRINT"
650 PRINT"
660 PRINT"
670 Y=5 X=6 GOSUB90
680 PRINT"■ NAME "
690 X=26 GOSUB90
700 PRINT" SURNAME "
710 Y=10 X=2 GOSUB90
720 PRINT"ADDRESS"
730 Y=18 X=3 GOSUB90
740 PRINT"POSTCODE"
750 X=22 GOSUB90
760 PRINT"TELEPHONE"
770 Y=19 X=15 GOSUB90
780 PRINT" HOME "
790 X=32 GOSUB90
800 PRINT" WORK "
810 POKE53281,2 RETURN
820 PRINT"■" Y=Y+1 Z=Y
830 PRINT"▓▓▓▓▓▓▓▓ INPUT■ NAME & ADDRESS ■■■"
840 GOSUB430
850 PRINT"■" GOSUB210 Y=7 X=2 GOSUB90
860 L=15 T=1 GOSUB100 A$(Z,1)=L$
870 GOSUB210
880 Y=7 X=20 GOSUB90
890 L=17 T=2 GOSUB100 A$(Z,2)=L$
900 GOSUB210
910 Y=10 X=11 GOSUB90
920 L=26 T=3 GOSUB100 A$(Z,3)=L$
930 GOSUB210
940 Y=13 X=2 GOSUB90
950 L=35 T=4 GOSUB100 A$(Z,4)=L$
960 GOSUB210
970 Y=16 X=2 GOSUB90
980 L=35 T=5 GOSUB100 A$(Z,5)=L$
990 GOSUB210
1000 Y=21 X=2 GOSUB90
```

```
1010 L=11 T=6 GOSUB100 A$(Z,6)=L$
1020 GOSUB210
1030 Y=21 X=15 GOSUB90
1040 L=10 T=7 GOSUB100 A$(Z,7)=L$
1050 GOSUB210
1060 Y=21 X=27 GOSUB90
1070 L=10 T=8 GOSUB100 A$(Z,8)=L$
1080 GOSUB210
1090 Y=23 X=1 GOSUB90
1100 PRINT" R RESIDENTIAL OR B BUSINESS "
1110 GETR$ IFR$=""THEN1110
1120 IFR$="R"THENA$(Z,9)="-RESIDENTIAL-" GOTO1150
1130 IFR$="B"THENA$(Z,9)="-BUSINESS   -" GOTO1150
1140 GOTO1110
1150 GOSUB210
1160 POKE198,0 Y=23 X=1 GOSUB90
1170 PRINTLEFT$(CS$,80) FORW=1TO200 NEXTW
1180 GOSUB90
1190 PRINT" C TO CHANGE ADDRESS OR RETURN "
     " FORW=1TO60
1200 GETI$ IFI$<>""THENPOKE54276,33 FORD=1TO50 NEXTD
     POKE54276,0
1210 IFB$="" ANDI$="C"THENW=60 NEXTW GOTO830
1220 IFI$="C"THENW=60 NEXTW GOTO830
1230 IFB$="" ANDI$=CHR$(13)THENW=60 NEXTW GOTO1450
1240 IFI$=CHR$(13)THENW=60 NEXTW GOTO1560
1250 NEXTW GOTO1160
1255 PRINT"**** CHANGE NAME & ADDRESS ****" GOTO1270
1260 PRINT"**** FIND NAME & ADDRESS ****"
1270 D$="" H=0 I=1 GOSUB430
1280 Y=23 X=2 GOSUB90 INPUT"ENTER ONE ITEM OF DATA ";D$
1290 POKE54276,33 FORD=1TO50 NEXTD POKE54276,0
1300 Y=23 X=0 GOSUB90
1310 PRINTCS$
1320 X=1 GOSUB90
1330 PRINT"         PLEASE WAIT "
1340 FORI=UTOV C=I POKE53280,CAND15
1350 IFD$=A$(I,1)THEN1470
1360 IFD$=A$(I,2)THEN1470
1370 IFD$=A$(I,6)THEN1470
1380 IFD$=A$(I,7)THEN1470
1390 IFD$=A$(I,8)THEN1470
1400 IFD$=MID$(A$(I,9),2,1)THEN1470
1410 NEXTI IFH=>1THEND$="MORE DATA"
1420 POKE53280,6
1430 Y=23 X=1 GOSUB90
1440 PRINT" NO ";D$" IN FILE "
1450 FORW=1TO2500 NEXTW
1460 GOTO1560
1470 POKE53280,6 Z=I H=H+1 GOSUB210
1480 IFB$="" THEN1160
1490 Y=23 X=1 GOSUB90
1500 PRINT" F TO FIND MORE DATA OR RETURN "
1510 GETU$ IFU$=""THEN1510
1520 POKE54276,33 FORD=1TO50 NEXTD POKE54276,0
1530 IFU$="F"THENU=I+1 GOTO1320
1540 IFU$<CHR$(13)ORU$>CHR$(13)THEN1510
1550 I=V NEXTI
1560 PRINT"************ MENU ************"
     POKE53280,F POKE53281,?
1570 PRINT"F1 = INPUT NAME & ADDRESS ----------"
1580 PRINT"F2 = CHANGE NAME & ADDRESS ---------"
1590 PRINT"F5 = FIND NAME & ADDRESS -----------"
1600 PRINT"F7 = SAVE DATA ---------------------"
1610 POKE198,0 Y=20 X=20 GOSUB90
1620 PRINTLEFT$(CS$,26) FORW=1TO200 NEXTW
1630 GOSUB90
1640 PRINT"SELECT OPTION ?" FORW=1TO50
1650 GETB$
1660 IFB$=""THENW=50 NEXTW GOTO820
1670 IFB$=""THENW=50 NEXTW GOTO1255
1680 IFB$=""THENW=50 NEXTW GOTO1260
1690 IFB$=""THENW=50 NEXTW GOTO1710
1700 NEXTW GOTO1610
1710 PRINT"<<<<<<<<<SAVE NAME &
     ADDRESS DATA>>>>>
1720 OPEN1,1,1,"ADDRESS DATA"
1730 PRINT#1,V
1740 FORI=1TOV FORJ=1TO9 PRINT#1,A$(I,J) NEXTJ,I
1750 CLOSE1
```

Life in the fast lane

Make your Basic programs run faster with Part Two of Compiler by ***A. Mehmood***

This week we present the remainder of the Basic listing and the explanation of the supported functions

Pause – The *Pause* command works in a different way from the way it works in standard Sinclair Basic, in that the pause command in the compiler has the effect of *Pause 0*. The *Pause* command however uses the same format as it does in standard Sinclair Basic (eg. *Pause x*, *x* being any integer between 0-65535) It should be noted the value of *x* is not taken into account and is only used to overcome the standard Sinclair Basic syntax checking

Strings – No Strings or String variables are supported, including string printing, or anything using double quotes

Rnd – The *Rnd* command works in exactly the same way as it does in standard Sinclair Basic except that it produces a random number between 0-14 rather than 0-65

Border – The *Border* command works slightly differently from the Sinclair version. To get the required border colour the standard Sinclair Basic format should be used, (ie, *Border x)* where *x* has the result of the equation *(y*8)+z*. *y* is the colour of the border required and *z* is the ink colour of the lower half of the screen (bottom two lines), where all the error reports are produced.

Variables – Variables names can consist of any letter of the alphabet, and may be coupled with the number 1. This format allows a maximum of 52 variables. To assign a variable the standard Sinclair Basic format should be used

Arithmetic – Any arithmetic using +,-,*,/, can be performed. Brackets may be used. Although the compiler can handle fairly complicated arithmetic it is advised to keep equations short.

Print – The *Print* command works approximately as it does in standard Sinclair Basic, however it can *only* have the following formats

Print At x,y;Chr$ z, Chr$ z . or
Print Tab y; Chr$ z, or
Print Chr$ z, Chr$ z
Print

This where *x* is the line number, *y* is the column number and *z* is the code of the character to be printed or any variable that exists within a program.

Draw – The *Draw* command uses a slightly different form from those used in standard Sinclair Basic in that all negative numbers must hold the result of the following (negative number required) -1. The format of the command however is exactly the same as in standard Sinclair Basic, eg, Draw x, y

All the above changes sometimes makes programs that are to be compiled incompatible with the way that standard Sinclair Basic works however, this can be overcome by using commands which are compatible with both the Basic and the Compiler, changing commands before conversion or by simply omitting commands which are not compatible

Type in the compiler as shown in the listing taking great care especially with *Line 1* which should have at least 200 characters in it.

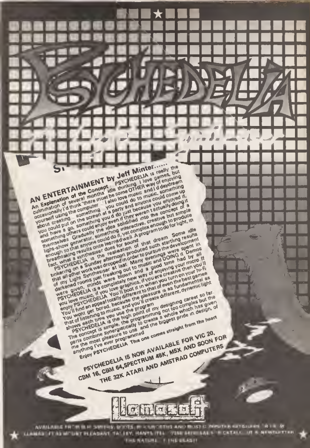
Next week, how to convert your own programs plus a demo program for the Compiler

If you would like a tape copy of Compiler without typing it in, write to the author at 30 Webber House, North St, Barking, Essex, enclosing £2.75

```
 300 LET P=P+w
 301 GO SUB w8: LET R$=CHR$ PEEK P: GO TO VAL "200"
 302 GO SUB w8: LET R$=CHR$ PEEK P: IF R$<>":" AND R$<>k$ THEN  LET P=P+w: GO TO
 VAL "302"
 303 GO TO VAL "200"
 310 GO SUB w8: LET V=FN V(PEEK P)
 311 LET E$=CHR$ V+e$
 315 GO SUB w7: LET p=p+w: LET b$=b$+"E5"+M$: GO SUB w5
 316 IF R$<>"," THEN  GO TO VAL "390"
 317 LET b$=b$+"E5"+M$: GO SUB w7: GO SUB w5: IF R$<>")" THEN  GO TO VAL "390"
 320 LET R$=E$(w): LET b$=b$+"D1"+("7CB2577DB35F" AND R$="o")+("7CA2577DA35F" AN
D R$="a")+("7CAA577DAB5F" AND R$="x")+"E1"
 350 GO TO wa
 390 LET x$="Wrong number of arguments": GO TO wf
 400 LET q=w: LET q1=w
 401 LET a=y: GO SUB VAL "12": LET z=c: LET a=d: GO SUB wb: LET a$=a$+"21"+c$: L
ET a=z: GO SUB wb: LET a$=a$+c$
 405 LET z=p
 410 LET p=p+w
 415 IF PEEK p=CODE """" THEN  LET x$="String printing not supported.": GO TO wf
 422 POKE y,PEEK p: LET y=y-w: GO TO VAL "410"
 450 PRINT "bad line";END
 460 LET a=p-z-w: GO SUB VAL "12": LET z=c: LET a=d: GO SUB wb: LET a$=a$+"11"+c
$: LET a=z: GO SUB wb: LET a$=a$+c$+"CD7D5D"
 462 GO SUB VAL "95": LET r$=CHR$ PEEK p: GO TO VAL "740"
 600 GO SUB VAL "14"
 602 LET r$=CHR$ PEEK p: IF r$<>"=" THEN  LET x$=" LET (Invalid variable name)":
 GO TO wf
 604 LET p=p+w
 610 GO SUB w4: LET B$=B$+"22": LET A=VAR: GO SUB wb: LET B$=B$+C$+N$: LET A$=A$
+B$: GO TO we
 621 GO SUB w3: LET a$=a$+b$
 622 LET S$=R$
 623 IF S$=CHR$ VAL "203" THEN  LET x$="Syntax error ( IF x THEN ..) ": GO TO wf
 624 LET a$=a$+"E5"
 626 GO SUB w3
 627 LET a$=a$+b$+"545DE1"
 630 IF S$=">" OR S$="<=" THEN  LET a$=a$+"EB"
 631 LET a$=a$+"A7ED52"
 635 LET a=VAL "194"+(VAL "8" AND S$="<>")+(VAL "16" AND (S$="<" OR S$=">"))+(VA
```

```
L "24" AND (B$+">=" OR S$="<="))
 636 GO SUB wb
 642 LET a$=a$+c$+"xx": LET a=line+w: GO SUB VAL "12": LET r$=":": LET a$=a$+c$
 643 GO TO wc
 645 LET p=p+w: LET a$=a$+"xx": GO SUB VAL "192"
 647 LET a$=a$+CHR$ PEEK p+CHR$ PEEK (p+w): LET p=p+w1
 648 GO TO we
 700 GO SUB w7
 701 LET r$=CHR$ PEEK p: IF r$=":" OR r$=k$ THEN  GO TO wc
 702 IF r$=CHR$ VAL "172" THEN  GO TO VAL "750"
 704 IF r$="," OR r$="'" OR R$=";" THEN  LET a$=a$+("3E06D7" AND R$=",")+("3E00D
7" AND R$="'"): GO TO VAL "700"
 705 IF r$=CHR$ VAL "194" THEN  GO TO VAL '730"
 706 IF r$>=CHR$ VAL "217" AND R$<=CHR$ VAL "222" THEN  GO SUB VAL "183": GO TO
VAL "701"
 707 IF r$=CHR$ VAL "173" THEN  GO TO VAL "720"
 708 IF r$="""" THEN  GO TO VAL "400"
 710 GO SUB w4: LET A$=A$+B$+"E5C1CD2B2DCDE32D": GO TO VAL "756"
 720 LET A$=A$+"3E17D7": GO SUB w3: LET A$=A$+B$+P$+P$: GO TO VAL "740"
 730 GO SUB w3: LET A$=A$+B$+P$
 731 GO TO VAL "740"
 740 LET s$=r$: GO SUB w8: LET r$=CHR$ PEEK p: IF R$=k$ OR R$=":" THEN  LET A$=A
$+("3E0DD7" AND (S$<>"," OR s$<>"'" OR S$<>";")): GO TO wc
 742 GO TO VAL "701"
 750 LET A$=A$+"3E16D7": FOR Z=w TO w1: GO SUB w3
 751 LET S$=R$: LET A$=A$+B$+P$: NEXT Z
 756 GO TO VAL "740"
 763 GO SUB w3: LET a$=a$+b$+"4D": GO SUB w3: LET a$=a$+b$+"45": LET a$=a$+"CDE5
22": GO TO we
 767 GO SUB w3: LET A$=A$+B$+"E5": GO SUB w3: LET A$=A$+B$+("EBE173" AND Q$=CHR$
 VAL "244")+("C1ED69" AND Q$=CHR$ VAL "223"): GO TO we
 770 GO SUB w3: LET A$=A$+B$+"E5": GO SUB w3: LET A$=A$+B$+"EBE1"+("CDB503" AND
q$=CHR$ VAL "215")+("CDF65C" AND Q$=CHR$ VAL "252"): GO TO we+(Q$<>CHR$ VAL "215
")
 772 GO SUB w3: LET A$=A$+B$+"7D32485C210000110000CDB503"+M$: GO TO we
 773 LET a=y: GO SUB VAL "12": LET a=d: GO SUB wb: LET a$=a$+"21"+c$: LET a=c: G
O SUB wb: LET a$=a$+c$: GO TO VAL "740"
 780 GO SUB VAL "14"
 781 GO SUB w4
 783 GO SUB w3: LET a$=a$+B$: GO SUB VAL "11": LET F$=CHR$ VAR+C$+"  "+F$: LET A
=VAR: GO SUB wb: LET A$=A$+"22"+C$+N$
 785 LET L$=C$+L$
 787 GO SUB w3: LET c$=l$( TO w1): LET l$=l$(w2 TO )
 790 LET A$=A$+B$+"ED5B"+C$+N$+"A7ED52DANN"+CHR$ VAR+"."
 791 LET a=LEN a$-w: GO SUB VAL "12": LET f$(VAL "4" TO VAL "5")=c$
 792 GO TO we
 802 GO SUB w7
 806 LET c$=CHR$ PEEK p: LET v=(FN v(PEEK P)-VAL "97")*w1
 807 FOR z=w TO LEN F$ STEP VAL "5": IF F$(z)=CHR$ V THEN  GO TO VAL "810"
 808 NEXT z: LET x$=" NEXT  without FOR ": GO TO wf
 810 LET A=V: GO SUB wb
 811 LET a$=a$+"2A"+C$+N$: LET a$=a$+"23C3YY"+f$(w1 TO w2)
 812 GO SUB VAL "11": LET a=CODE f$(VAL "4")+CODE f$(VAL "5")*wd: LET a$(a-w1 TO
 a+w)="YY"+c$
 815 LET f$=f$( TO z-w)+f$(z+VAL "5" TO )
 820 GO TO VAL "300"
 830 IF f$<>"" THEN  LET x$="Too many  FOR 's": GO TO wf
 832 RETURN
 833 GO SUB w3: LET A$=A$+B$+"CD195D": GO TO we
 850 POKE 23692,-1
 851 PRINT '';AT 19,0; FLASH w;"Error"; FLASH 0;" in line ";line;", statement ";
s
 852 PRINT ';x$: STOP
 900 CLEAR 65535: GO SUB VAL "940": LET L$="": LET E$="": LET A$="3E02CD0116": L
ET F$=L$
 901 LET k$=CHR$ VAL "13"
 902 LET P$="7DD7"
 903 LET y=FN A(23675)-1
 910 LET M$="2100DD"
 911 LET A=PEEK VAL "23733": GO SUB wb: LET N$=C$
 912 GO TO VAL "999"
 915 PRINT TAB 5;"STORE ADDRESS BETWEEN ";TAB 8;"50000 AND ";65280-(20+LEN A$/2)
 916 INPUT "STORE CODE AT ";F: IF F<50000 THEN  GO TO 916
 920 POKE 23730,79: POKE 23731,195
 921 LET B=F: FOR B=1 TO LEN A$ STEP w1: IF a$(b)<>"x" THEN  GO TO VAL "924"
 922 LET z=CODE a$(b+w1)+CODE a$(b+w2)*wd: FOR k=w TO LEN l$ STEP VAL "4": LET j
=CODE l$(k+w)*wd+CODE l$(k): IF z>j THEN  NEXT k: LET x$=" GO TO line number bey
ond program": GO TO wf
```

```
 923 LET A=CODE l$(k+w1)+wd*CODE l$(k+w2)+G: GO TO VAL "926"
 924 IF A$(B)<>"Y" THEN  GO TO VAL "927"
 925 LET A=CODE A$(B+w1)+CODE A$(B+w2)+G
 926 GO SUB VAL "12": POKE INT (B/w1)+F,D: POKE INT (B/w1)+F+w,C: LET B=B+w1: GO
 TO VAL "928"
 927 LET C=CODE A$(B)-VAL "48": LET D=CODE A$(B+VAL "1")-VAL "48": LET C=C-VAL "
7"*(C>VAL "9"): LET D=D-(VAL "7" AND D>VAL "9"): POKE f+INT (B/w1),C*VAL "16"+D
 928 NEXT b
 929 CLS
 930 PRINT AT 9,0;"CODE STORED AT ";F
 931 PRINT AT 12,0;"LENGTH OF CODE =";LEN A$/2+10
 932 PAUSE 0: CLEAR
 935 STOP : STOP
 940 LET w=VAL "1": LET w1=VAL "2": LET w2=VAL "3": LET w3=VAL "20": LET w4=VAL
"21": LET w5=VAL "49": LET w6=VAL "50"
 950 LET w7=VAL "95": LET w8=VAL "96": LET w9=VAL "100": LET wa=VAL "128": LET w
b=VAL "191": LET wc=VAL "201"
 960 LET wd=VAL "256": LET we=VAL '301": LET wf=VAL "850"
 965 BORDER 0: PAPER 7: INK 9: CLS
 970 PRINT AT 5,12;"COMPILER"
 971 POKE 23755,0: POKE 23756,0
 975 RESTORE 980
 976 LET C=0: FOR F=0 TO 189: READ A: POKE F+23759,A: LET C=C+A: NEXT F: CLS : I
F C<>22460 THEN  PRINT AT 20,0;"CHECK SUM ERROR CHECK DATA .....": STOP
 977 RETURN
 980 DATA 234,197,229,193,33,0,0,122,179,32,2,193,201,9,27,24,246,197,122,179,32
,2,207,5,1,0,0,167,237,82,56,3,3,24,248,197
 981 DATA 225,193,201,217,229,217,213,193,17,1,1,203,120,40,5,22,255,121,47,79,2
03,124,40,5,30,255,125,47,111,65,77,205,186,36,217
 982 DATA 225,217,201,235,33,0,0,34,7,92,34,120,92,213,255,209,58,8,92,167,192,4
2,120,92,167,237,82,32,240,201,217,229,217,229,193
 983 DATA 205,43,45,1,75,0,205,43,43,237,75,118,92,205,43,45,1,255,255,205,43,45
,239,161,161,15,15,192,2,161,15,4,161,3,224,50,2
 984 DATA 49,56,205,162,45,237,67,118,92,1,255,255,205,43,45,239,161,15,5,4,39,5
6,205,162,45,197,209,217,225,217,201,122,179,200,126,215,35,27,24,247,111,111,11
1,111,111,111,111
 999 LET R$=k$: LET P=FN A(VAL "23637")-VAL "1": GO TO VAL "201": REM
          vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv
```


PSYCHEDELIA
AN ENTERTAINMENT by Jeff Minter......
An Explenation of the Concept PSYCHEDELIA is really the culmination of several months' idle thinking. I love games, but occasionally I'd think 'there must be some OTHER way of enjoying yourself using the computer'. I also love music and I'd daydream about creating something you could do to music, something you could put on the screen at a party and anyone could come up and have a go, something you'd do just because you enjoyed it, something others could enjoy even if they weren't actually doing it themselves. Gradually the idea solidified into the concept of a light-show generator, something interactive, creative but simple enough so that anyone could do it, yet complex enough to produce breathtaking results once learned well. A program to do for light, in fact, what a synthesiser does for sound.
PSYCHEDELIA is the realisation of that dream. Some idle tinkering on a Sunday afternoon produced such startling results that all other work was dropped in order to pursue the development of my Light Synthesiser at last. Many evenings were spent in darkened rooms just freaking out to music and DOING it. Demos were given, minds were blown and a good time had by all.
PSYCHEDELIA is a completely new way of enjoying your micro. If you love music, if you love graphics, if you are creative then you'll enjoy PSYCHEDELIA. You'll boot it in when you turn on your hi-fi. You'll find an appeal totally different to that of even the best games. You wont get bored, because the pleasure is as fundamental as that of listening to music, and you'll create different, dynamic light shows each time you use the program.
PSYCHEDELIA is the high point of my designing careet so far. The concept is simple, the programming not too comples but the parts combine synergistically to create a whole which has given me the most pleasure to use and the biggest pride in design, of anything I've ever programmed.
Enjoy PSYCHEDELIA. This one comes straight from the heart.
PSYCHEDELIA IS NOW AVAILABLE FOR VIC 20, CBM 16, CBM 64, SPECTRUM 48K, MSX AND SOON FOR THE 32K ATARI AND AMSTRAD COMPUTERS
llamasoft

The QL Page

Key to numeracy

An on-screen calculator to use within your own programs from ***David T Payne***

This program displays a calculator face on screen and operates as such using the number keys and '='. The arithmetic functions have been moved to *F1/F4* as indicated on screen; this has been done in order to avoid having to use the shift key and thus maintain single keypress operation.

Two calculator windows are opened, the upper shows the first operand *(Mem$)* together with the function *(OP$(OP))* and the lower displays the second operand *(Get$)* or the result after the '=' is pressed.

This utility could be altered to form a complete procedure which could be called from a larger program as and when required.

Procedures

Setup – Draws the calculator face and opens two windows for the calculator displays

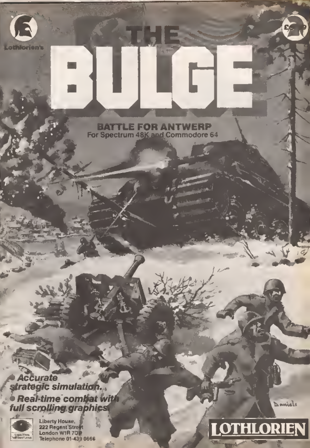
Get-Value – Selects valid keypresses and calls the next two procedures as required

Put – Writes operands and results to calculator display

Calculate – Does the calculation after '=' is pressed and calls PUT to display the result

Keep – Can go in any programs after alteration it is very easy just to enter *Keep* in order to bring the file up to date

```
100 REMark
110 REMark
120 REMark
130 REMark
140 REMark
150 REMark
160 REMark
170 :
180 SETUP
190 GET_VALUE
200 :
210 DEFine PROCedure SETUP
220   RESTORE
230   MEM$="":GET$="":OP=0:DIM OP$(13,1)
240   OP$(0)=" ":OP$(1)="+":OP$(5)="-":OP$(9)="X":OP$(13)="÷"
250   :
260 REMark >>>>>  The ÷ is obtained by CTRL and (  <<<<
270   :
280   FOR N=1 TO 2:WINDOW #N,448,200,32,16:PAPER #N,0
290   MODE 8:OVER 1
300   FOR ROW=154 TO 286 STEP 44
310     FOR COL=58 TO 188 STEP 26
320       BLOCK 32,18,ROW,COL,1
330       BLOCK 32,18,ROW-4,COL-4,5
340       INK 0:IF NOT ROW MOD 286:INK 2
350       CURSOR ROW+4,COL
360       READ A$
370       PRINT A$
380     END FOR COL
390   END FOR ROW
400   INK 2
410   FOR COL=52 TO 160 STEP 26
420     CURSOR 320,COL
430     READ A$
440     PRINT A$
450   END FOR COL
460   BLOCK 76,18,242,154,1
470   BLOCK 76,18,238,150,5
480   CURSOR 246,154
490   PRINT "CLEAR":INK 4:OVER 0
500   OPEN #8,SCR_164X26A182X0:PAPER #8,4:INK #8,0:CLS #8
510   OPEN #9,SCR_164X26A182X28:PAPER #9,4:INK #9,0:CLS #9
520 END DEFine SETUP
530 :
540 DATA "7","4","1",".","8","5","2","="
550 DATA "9","6","3","=","+","-","X","÷"
560 DATA "(F1)","(F2)","(F3)","(F4)","(F5)"
570 :
580 DEFine PROCedure GET_VALUE
590   REPeat LOOP
600     X=CODE(INKEY$)
610     SELect X
620     =48 TO 57:              REMark Numbers 0 to 9
630         TF$=X-48
640         GET$=GET$&TF$
650         PUT
660     =46:                    REMark Decimal point
670         GET$=GET$&"."
680         PUT
690     =232,236,240,244:       REMark F1 - F4
700         IF NOT OP
710           DO=X
720           OP=X-231
730           MEM$=GET$
740           GET$=""
750           PUT
760         END IF
770     =61:                    REMark "="
780         CALCULATE
790     =248:                   REMark F5
800         MEM$=""
810         GET$=""
820         OP=0
830         PUT
840     END SELect
850   END REPeat LOOP
860 END DEFine GET_VALUE
870 :
880 DEFine PROCedure PUT
890   CLS #8:PRINT #8\\MEM$;OP$(OP)
900   CLS #9:PRINT #9\\TO 12-LEN(GET$);GET$
910 END DEFine PUT
920 :
930 DEFine PROCedure CALCULATE
940   IF MEM$="" OR GET$="":RETurn
950   SELect DO
960     =232:GET$=MEM$+GET$
970     =236:GET$=MEM$-GET$
980     =240:GET$=MEM$*GET$
990     =244:GET$=MEM$/GET$
1000  END SELect
1010  OP=0:MEM$=""
1020  PUT
1030 END DEFine CALCULATE
1040 :
30000 DEFine PROCedure KEEP
30010   DELETE MDV1_CALCULATOR
30020   SAVE MDV1_CALCULATOR
30030 END DEFine KEEP
```


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Super simulation

*Making waves on any Amstrad machine – from the keyboard of **John Kennedy***

This program simulates the superposition of light – that is the resultant wave formed by two combined incident waves. It should be of interest to physics students as it shows constructive and destructive interference in a simple and easily understood manner.

When the program is run, it will ask for some data. The user should enter the wavelength of the two waves, noting that only wavelengths between 1 cm and 1 m are accepted. The computer will then ask for the wave offset. This is the number of degrees that B is ahead of A, eg 180 is half a wavelength ahead, 90 is a quarter, 0 and 360 will produce a zero offset.

The program will then draw a grid in which each square represents 1 cm and with a horizontal axis across from left to right representing zero displacement. The waves and their resultant will be drawn out in different colours and then made to flash, highlighting the two sets. Pressing space at this point will re-run the program.

Some example input data is given above.

Wavelengths	Offset	Result
5 and 5	180	destructive
5 and 5	0	constructive
5 and 5	90	mixture
2 and 1.5	0	'beats'

Beats are the regular changes in the amplitude of the resultant waves. They can be heard when two sound sources of similar amplitude but slightly different wavelength are used. Even the sound generator of the Amstrad will cause beats, try, *Sound 1,1500,30000* followed by *Sound 2 1501,30000.*

Program Notes

The program has so many REM statements notes are almost unnecessary.

Line	
70	If program broken into, re-run
160-340	Get data from user
480-630	Draw grid and axis
640-770	Draw actual waves
780-980	Re-run?
960-970	On error routine

```
10 REM ---------------------------
20 REM ---- WAVE INTERFERENCE ----
30 REM ---- (C) John Kennedy-----
50 REM ---------------------------
60 '
70 ON BREAK GOSUB 960
80 '
90 REM clear screen
100 '
110 BORDER 0:INK 0,0:INK 1,23
120 PAPER 0:PEN 1
130 MODE 1
140 '
150 REM prompts
160 '
170 WINDOW £1,2,38,10,16
180 MOVE 4,164
190 DRAWR 614,0,1
200 DRAWR 0,100
210 DRAWR -614,0
220 DRAWR 0,-100
230 INPUT £1,"Wave length of wave A.(cm)";wa
240 IF wa>100 OR wa<1 THEN 230
250 PRINT £1
260 INPUT £1,"Wave length of wave B.(cm)";wb
270 PRINT £1
280 IF wb>100 OR wb<1 THEN 280
290 INPUT £1,"Offset of B to A (in degrees)";offset
300 DEG
310 wa=wa/5.65
320 wb=wb/5.65
330 amp=75
340 '
350 REM set screen
360 '
370 MODE 1
380 INK 2,5
390 INK 1,23
400 INK 3,15
410 LOCATE 1,1
420 PEN 2
430 PRINT "    WAVE INTERFERENCE BY J.KENNEDY"
440 LOCATE 13,2
450 PEN 1:PRINT "RESULTANT  WAVE"
460 LOCATE 13,3
470 PEN 3:PRINT "INCIDENT  WAVES"
480 '
490 REM draw grid
500 '
510 FOR a=0 TO 640 STEP 16
520  MOVE a,0
530  DRAWR 0,398,2
540  MOVE 0,a
550  DRAWR 623,0
560 NEXT
570 '
580 REM draw central axis
590 '
600 FOR A=0 TO 623 STEP 4
610  PLOT A,200,2
620 NEXT
630 '
640 REM draw actual waves
650 '
660 FOR t=0 TO 1240 STEP 8
670  x=SIN((t/wa))*amp
680  y=SIN((t/wb)+offset)*amp
690  z=x+y
700  x1=SIN(((t+8)/wa))*amp
710  y1=SIN(((t+8)/wb)+offset)*amp
720  z1=x1+y1
730  PLOT t/2,x+200,3:DRAW (t+8)/2,x1+200
740  PLOT t/2,y+200,3:DRAW (t+8)/2,y1+200
750  PLOT t/2,z+200,1:DRAW (t+8)/2,z1+200
760 NEXT
770 '
780 REM print RE-RUN message
790 '
800 PAPER 2:PEN 0
810 LOCATE 12,22:PRINT "                 "
820 LOCATE 12,23:PRINT " SPACE TO RE-RUN "
830 LOCATE 12,24:PRINT "                 "
840 '
850 REM flash different waves
860 '
870 SPEED INK 60,60
880 INK 1,1,24
890 INK 3,24,1
900 '
910 REM act on reply to RE-RUN message
920 '
930 WHILE INKEY$<>"":WEND
940 WHILE INKEY$="":WEND
950 RUN
960 SOUND 1,500
970 RUN
```

Peek & Poke



Ace of clubs

A Moran, of Wolverhampton, writes

Q I have owned a Jupiter Ace for over a year now, and having survived the shock of Jupiter Cantab's demise, I am still programming away.

It would help me in my efforts to master Forth if I could get in contact with other Ace users. Do you know of any clubs which would be of use to me or of any other Ace users in my vicinity?

A It's strange how things work out, a few weeks ago someone asked me how many Aces had been made, and I said that I did not have the figures but that it could not be many. Not long after I received a letter from John L Noyce who runs the 'Jupiter Ace Users Club'. As well as informing me of the activities of the club, he also kindly informed me that the total number of Aces sold would appear to be below 8,000.

John can be contacted at PO Box 450, Brighton BN1 8GR.

Character building

Allan Smith, of Ferryhill, Co Durham, writes

Q I own a 48K Spectrum which I got for my birthday. Whilst experimenting with different *Pokes* I came across an interesting effect. If you *Poke 23606* with 100, all the characters in the character set seem to get mixed up. Why is this and how do I get the characters back? I have to switch my machine off at the moment.

A Location 23606 is the variable which holds the current displacement of the character set from its normal location. By changing the value of this variable (normally zero) you effectively shift the start address of the character set, but of course do not move. Hence you get peculiar values appearing. *Poke*ing this variable with zero restores matters to their original state.

Try this Allan, it is an interesting demonstration of the effects that changing this value can cause.

```
10 DIM A$(704): FOR A=1 TO 255: POKE 23606,A: PRINT AT 0,0;OVER 1;A$
20 NEXT A
```

Domestic drives

F Kernick, of Cardiff, writes

Q Since my introduction to the world of home computers I have looked forward to the use of discs (or microdrives) as a means not only of information storage but also as an expansion of the computer's memory capabilities by the use of Dynamic Data Transfer. That is to say the transfer of data during the running of a program. The computer could then dump a predetermined part of its data and fill the space with new information possibly by means of a *Load* command. It is true that short time might be lost in doing this and it might not be suitable for arcade games, but it seems to me that it would be useful for domestic utilities where time is not important and where the file is divided into sections anyway. Please could you tell me whether DDT is possible with any home computer and if not why not? I have a 48K Spectrum.

A I must confess that the term Dynamic Data Transfer is new to me although the concept is extremely well known. It is in fact what most programs written for large computer systems use. They of course have the advantage of being able to use extremely high speed discs (many times faster than floppies and capable of transferring more data in one go). Having said that it is certainly feasible to implement this philosophy on any micro (even the cassette based ones), although performance is unlikely to be very good. The best approach would be to keep the amount of data being transferred as small as possible. In that way the delay experienced by the user of the program would be as little as possible. It has, I believe, been used on a number of American Adventure games on disc for the Commodore.

Array of errors

Andrew Robertson, of Kilwinning, Ayrshire, writes

Q I have recently purchased an Amstrad CPC 464 and I am keen to get started on finding out its capabilities.

While typing in a program I accidentally typed in g$ rather than q$. I edited the program but each time I run it I get "Array already dimensioned in 70" error. I have tried to erase it out but with no success. The line concerned is: 70 *Dim* s%(21,4), q$(21), q$(30), v$(4), b%(30,1), n$(30), n%(30). Could you please help as I do not wish to retype it all again.

A Your problem is quite simply that on the line you specify there are two declarations of the array q$. My guess is that there is actually an array g$ also used in this program, and that one of the two declarations in line 70 should be for G$ and not q$. This will also mean (if I am right) that some of the other editing you have already done will also be incorrect. I presume that you have changed all the g$ variables to q$, this would seem to be incorrect.

One last possibility is that q$(21) should actually be s$(21), thus fitting in with some of the other declarations in that statement. I'm sorry that I cannot be more specific but without seeing the entire program that's the best I can do.

Text mess

K Morren of Chelmsford Essex writes

Q I own a Commodore Vic 20, and I am fed up with having to mess about to get my text screen displays lined up properly. I am of course suffering from the Vic's well known 'missing Tab facility'.

Can you offer me any advice?

A Try this.—

```
20 POKE 781,X: POKE 782,Y
30 POKE 783,PEEK(783) AND 254
40 SYS 65520: RETURN
```

This subroutine will cause the cursor to move to the coordinates specified by X and Y.

Integral microspeech

Q A number of readers have written to me over the past weeks with queries regarding disabling the Currah Microspeech.

A When the microspeech is plugged in it becomes an integral part of the spectrum operating system and Steve Currah who designed it, unfortunately doesn't know of any way that the installed unit can be disabled.

To eliminate potential damage to the expansion port (by removing and reconnecting the unit), Steve designed the Microslot motherboard expansion system. This is still available at around £14.95.

Is there anything about your computer you don't understand, and which everyone else seems to take for granted? Whatever your problem *Peek* it to Phil Rogers and every week he will *Poke* back as many answers as he can. The address is *Peek & Poke*, *PCW*, 12-13 Little Newport Street, London WC2R 3LD



GoGo crazy

As promised last week here are a whole host of tips and pointers for the excellent Firebird cheapie *GoGo the Ghost* for the Commodore 64

They come from Paul Flowers of Ipswich who has a high score of 34,000 Although you may feel this isn't very high Paul says he aims to "explore rather than score". In the long term he hopes to be able to offer detailed tips for each room which we can look forward to First of all Paul offers these two passwords – Polly Paradise for Room 12 and Headache for Room 15, and continues with the following advice

"You may find that if you rush straight into a room the ghosts have been timed to just get in the way of open barriers etc The trick is to wait around and they will often get out of synch. The time limit shouldn't be a problem since collecting one object can restore it completely The new boost you get, which can be lives, time, power or points, is that which is lit up just as you collect an object. Wait around near the object until the one you want comes round

"At the start of the game collect as many extra lives as possible (five should do) then replenish lives, time and power as necessary Don't worry about points until completely safe Power is replenished anyway as soon as you enter a room and running out of time only loses one life – it's not the end of the world.

"Only use the invisibility spell if you have to and, if you must, don't leave it till the last minute. Don't forget it only works on the phantoms, not on any other object If you use it wisely you will have enough to get you through the hardest screens but always keep your finger near the fire button in case a ghost appears from nowhere

"Use the pause button to study the screens but remember that the easiest looking route often has the most awkwardly timed phantoms More narrow passages often turn out to be easier. One problem is that in some rooms you have to rely on precise positioning not to be killed – all I can say is don't get nervous, don't use a loose joystick and fix it to something solid e.g a table or a rock (as the song goes)

"There are a number of dead ends which are not worth visiting at all, and also some one way passages The chequered block in Room 1 won't kill you and you get extra points for eating it. There are also switches that open doors but do they do more than this as well? Can anyone help?

"Remember the disappearing walls are obviously only safe to pass when they are completely gone but sometimes you have to wait a bit longer than this or for some reason you get killed anyway. On the other hand if you wait for the moving barriers to be fully out of sight they will come down on top of you – you should get as near as possible and cross just as they reach head height.

"Finally, can anyone help with tips cheats or anything for *Bruce Lee* from US Gold, or give some high account numbers for *Ghostbusters*?"

Paul says that *Ghostbusters* is his favourite game which just goes to show how tastes differ when you consider this letter from an old friend of the Avenue, Stuart Young of Glasgow "Having shelled out £10 I expect something better than small flickery graphics, a laughable tune, practically no gameplay, built in unplayability and radio interference to pass for speech And talk about slow! You have time to travel from John O'Groats to Lands End by C5 before you spot a building flashing red.

"The thing is the Commodore version is almost as bad. It is a bit more challenging and the graphics are better but the non-existant gameplay is still there (or not there) All it is is a pretty good rendition of a popular tune"

This is pretty strong stuff Stuart but judging from the letters I get agreeing with you someone really should whisper in Activision's ear about the quality of their Spectrum conversions and their prices.

However, I have to say that regarding the C64 original you have to accept that some people prefer a slow-paced game, and perhaps more to the point it did represent a landmark in terms of the style of presentation, if not content, that really puts it into another league compared to *Space Race*. Hopefully we can look forward to them combining the marvellous details of *Ghostbusters* with a better game idea

Since we're already running out of space again, I shall go through the names and scores of the latest champions of our Games Wizard Competition next week, but there is one thing I really must deal with. There is a sizeable stack of letters here on my desk from people who want to know if they are the first to complete Virgin's *Sorcery* on the Amstrad Unfortunately it is difficult to give a definite answer because so many people forget to date their achievements, but the first name that arrived in the mail was N Attwood of Churchdown, Gloucestershire

Anyone else who is on the verge of writing in will have to accept that they aren't first, and it also goes without saying that we can't publish any of your tips since it is a competition game Concerning the highest score, the leader to date is Mark Buttle of London with 91,250

Now a letter has come from Stephen Kirby of Peterlee in Co Durham, who has finished Ultimate's *Staff of Karnath* for the C64 on March 24th He gives us some tips, most of which have been printed, except that Menhir is the spell that destroys the Staff at the end of the game, should you be so lucky to get that far Please write again Stephen and tell me how to get the library piece before I go mad

Ultimate has also now released the follow-up to *Staff of Karnath – Entombed*, which looks very good indeed.

Finally, talking of saving people from insanity, many will jump for joy thanks to this poke from Robert Muir of London to get rid of those blasted grinning Sidhe in *Tir Na Nog – Poke* 34202 200 Robert says he has nearly finished the game having found Nuada's Sword, Lugh's Spear and the Stone of Fal and I'm sure we would all like to see your tips on how to get these, but I think etiquette demands that you should send them to Tony Bridge's column rather than here.

Tony Kendle

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Between now and September Tony Kendle will be keeping you up to date on the *Arcade Avenue* page with just who and the scores to beat. Then, in September, the top three scores on each machine will battle it out for a place in the final and the chance to be the first to play the top secret games.

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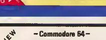
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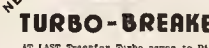
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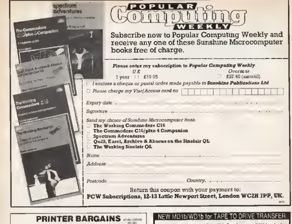
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Tony Bridge's Adventure Corner

Club collection

Adventure Clubs have been springing up all over the place in recent months, and although I've mentioned one or two, experience has shown that they are generally not successful. Apart from asking people to part with money for something which most people will be only too glad to give you for nothing (I mean help, of course, the Adventure Helpline in this magazine is designed to bring adventurers into contact to give mutual help), the clubs, being run in the main by keen kids who eventually get snowed under by the response, often just don't deliver. If you are tempted to send money to any club of this nature, be sure that you can afford to lose it.

Having said all that, I have been sent some literature about a new club, thrillingly known as *The Adventurers Club* – this one is being run as a business and offers quite a lot. It's also a bit more expensive than the others, £10 a year in fact, so think hard before joining. What the club offers is the usual Helpline service, both by mail and phone, and they say that they have solved "most adventures, even for the Dragon and other less popular machines ...". Also, you'll be sent a 20-page monthly member's Dossier, which includes details of all the latest adventures, comprehensive reviews of *all* (!) the programs released in the past 5 years in the UK (I'll believe *that* one when I see it!), monthly step-by-step articles on how to write your own adventures, plus discounted software (typically 20% off retail prices).

In no way do I personally endorse this venture, and remind you of the disappointment other people have experienced after sending money to other Clubs – but the people behind this latest Club seem determined to make a go of it – and they can spell!

I've had one or two letters (two, actually) from Amstrad owners, telling me off for not mentioning their machine too often. I wouldn't agree with that, in the past few weeks, I think the elf has spoken about most of the Amstrad programs that he has been sent. The Corner has to reflect what is selling, and there are not too many adventures available for the Amstrad as yet, and practically all those are conversions from other machines. So, if you see mention of *Jewels of Babylon*, for example, you can assume that it is more or less the same on one machine as another.

One such adventure is *Message from Andromeda*, from Interceptor, who have translated all of their fine adventures to the Amstrad. Scott Turner has written with advice on the game – "In the Mirror room – you must first of all collect the Rod, and then go to the Room. Now type 11,33,15,42. Then you will find yourself in another room, in which is a Crystal Sphere. 13,24 and 34,7." Scott also solved *Forest at World's End* (in just 3 hours! – although *Message* took 5 weeks). He has compiled a Help sheet and this is available to anyone sending him a SAE to Scott Turner, 1 Church Gate Cottages, Udimore, nr Rye, East Sussex.

On the subjects of *Jewels*, Gary Wilson had a query at the beginning of March about a certain key in the adventure. Now Sergeant Ivor Williams from BFPO 34 supplies the answer. "I imagine Gary has solved the problem now, but a tip for finding the key is 8,26,40,14. Further tips to anyone starting off – a map is helpful also 35, 19, 40, 2 – 8, 36, 26, 40, 43, 4, 37, 10, 26, 21. Mazes – in thicket maze to Village, from Pool go 32,25,25,32,35, from Village, the exit is 443,43,1,1,1. Rocky path to Lion in Jungle is 1,1,1,1, and out from grassy slope through Jungle is 25,25,43 32 32,32,25." Ivor goes on to say "I found *Jewels* to be a fantastic challenge and have written to Interceptor for *Forest at World's End* and *Heroes of Karn*, hoping that they will be of an equally high standard."

Thanks for that information, Ivor, and thanks also for your offer of help to other adventurers working through this game. Write to him, with the usual SSAE, of course, to 910 Sgt Williams I, 226 Engr Regt Wksps REME, BFPO 24.

Another address to try is that of John Wilson. He has solved *Jewels* and *Heroes of Karn*, as well as Mikro-Gen's *Witch's Cauldron*. Ask for his help: 26 Spotland Tops, Cutgate, Rochdale, Lancs.

Gary Wilson was also asking about Fotkade's *Adventure 200* – I've since found my notes on this one, Gary, but I can't tell you very much. The fish in the Rock Pool near the start is a Red Herring, of course, and you will need the coin from the pot-hole in order to cross the bridge. Can anyone help him any further?

Melbourne House's difficult program *Sherlock* is still baffling many Spectrum owners. I've passed on a few clues, and regular readers should now be able to prove Ffoulkes innocent! The problem now seems to be getting to Old Mill road. Evan Terras has Sherlock'd his way to the location, and says "You must first prove that Brown killed herself, that Jones killed Tricia Fender, prove Ffoulkes innocent and decode Basil's notes. Now, 3 12,27 and say 38 16,20. Then say 17,36,30 46,28,41."

Evan, incidentally, offers help in this adventure, as well as a long list of others, including *Hampstead*, *Lords of Time*, *Hobbit* and so on. Evan Terras, 9 Leslie Terrace Prestwick, Ayrshire.

To prove that Brown killed herself (the chippings on the bridge indicate that the gun was dropped) 44,27,12,31,8,47, and to prove that Jones killed Tricia, 18,2,40,23,38 48,6,9,12,27.

Incidentally, the Record is a major clue – just examine it to find that the music is Baroque, whereas Basil is supposed to be playing Chopin. In the eternal quest for Sherlockbugs, which took over from Hobbitbugs as a relaxing pastime for Melbourne adventurers, Mr A'mour (I think, but he/she is AKA Bilbo), points out that if Lestrade is in the Brown's or Jones' house on Monday, and you say to him 'Go to Cobden Lane', every character in the game freezes for ever. This happens, too, on a couple of other occasions – which is very frustrating when it happens.

Finally, David Swain, who has been quiet lately, has written offering help to anyone working on *Wheel of Fortune*, from Epic software. David is very knowledgeable about most BBC adventures, including Acornsoft's epics, level 9 and so on. David Swain, 31 Beech Croft Road, Oxford.

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SPECTRUM S/W Original inc Beetle £1 50 Jet Set Willy £8 Ant Attack £2 50 Chequered Flag £3 Fighter Pilot £350 Tel Retford (0777) 817975

SPECTRUM 48K £300 S/W + Interface and joystick II for £200 + 2 books. Tel 01-455 2583

SPECTRUM 48K + software + joystick interface £60 ono Tel Scarborough 77781

48K SPECTRUM Alphacom 32 printer Lots of software (latest) books and mags all worth over £300 Will swap for Commodore 64 or sell for £180 Tel Northampton (0604) 404028.

SPECTRUM Currah Speech £20 games Pyjamarama Full Throttle Starstrike £3 each Whoole World Cup TLL £2 60 each Maziacs Bugaboo Luna Crabs £1 60 Voyage into Unknown 50p Tel Uttoxeter 5287

DK'TRONICS KEYBOARD FOR SPECTRUM £30 Sony tape recorder suitable for Spectrum only £25 Learn Basic instruction manual for Spectrum £12 50 Telephone 01-348 3824 and ask for Graham

FOR SALE Spectrum WAfadrive £80 Comcen joystick interface £10 DK Tronics Interface £5 and software for sale (Bruce Lee etc) Interested? Robin Tel Thetford 3654

ADVENTURE HELPLINE

Pirate on BBC B How do you open door in cave how can items be got out of the treasure chest? See Bramham 4 Parklands Darras Hall Newcastle on Tyne NE20 9LL.

Stolen Lamp on Electron What does two lamps are better than one mean? Simon Aldridge 3 Sewan Rd, Tadley Basingstoke Hants

Heroes of Karn on Amstrad. How do I kill the fan and the Spirit? Ian Steven see Jag Sun RAF Wildenrath W Germany BFPO 42

Advent A on Spectrum 48K. How do I wake the Cream Man how do I pass the Incredible how do I get out of prison the second time? J S Rassel 21 Thorney Close Fareham Hants

Hobbit on Spectrum 48K I can get out of the Goblin's Dungeon but where is Gollum's ring? Steven Quinn 27 Royal Avenue Onchan Isle of Man

Jewels of Babylon on Amstrad Where do I find the key to open the door in the dusty corridor? Lorraine Tinsley 23 Liverpool Rd Page Moss Liverpool L14 3PC

Zkul on Sinclair QL. How do you open the door in the Pool room and what is a cossaf? Pete Coombes, 3 Castledene Cres Parkstone Poole Dorset

Hampsted on Commodore 64 How do I get into the filing cabinet in my office? Graham Daly 183 Hinchcliffe Urton Coldhay FE2 0ST

Pyjamarama on Spectrum 48K. How do I get past the Space Invaders on the Moon? Gregory Watson 78 Dunsire St Kirkaldy Fife Scotland

Return of Eden on Amstrad. How do I avoid being killed by the Snowball's enemies? Stevan Bateman, 39 Crescent Rd Dukinfield Cheshire SK16 4ET

Jewels of Babylon on Amstrad. In Cannabal's village how do I survive? (This is my first adventure game!) Gary Jarvie 29 Perryhill Priors Park Tewkesbury Glos GL20 5JC

The Count on Vic 20. How do you get to the Count and how do you open the door in the Work Room? Robin Hinch, 2 Chapel Way Brigg S Humberside

Aural Quest on Spectrum. How do I get past the mugger in Central Park? Derek Ford, 14 Kendal Avenue Birmingham B45 9QA

Ginats Revenge on Spectrum 48K I am on the first sheet and cannot get out of it. I am always being attacked. Help Robert Vickers 63 Dorset Ave Cheadle Hulme Cheshire SK8 5RQ

Lords of Time on C64 I cannot find the sword to kill the Black Knight James Stevenson, 102 Beckwood, Catterick Garrison North Yorks DL9 4Q6

Message from Andromeda on CPC 464. I would like to escape from the mirrored room after much perseverance! Mrs Atkinson 72 Westbourne Street Wendsock Street Hull HU3 5BS

Program Power Adventure on BBC How do you deal with the owl? J Gregory 8 West Way Broadstone Dorset

Castle of Terror on C64 I cannot get into the castle. Mark Simpkins 1 Wellmeadow Cottages Cobham Road Fetcham Leatherhead, Surrey KT22 9PT

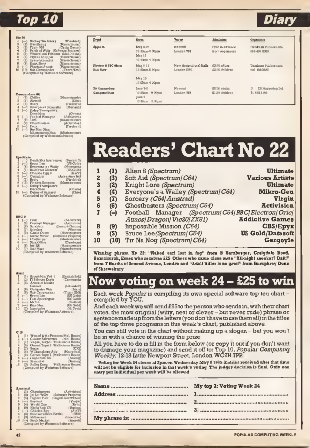
Quest on Spectrum How do I prove that the river has no water in it and what is mirror in forest used for? Daniel LeClare 17 Monkswell, Cambridge CB2 2JU

System 15000 on Spectrum. I have got one Midminster Bank any help from there on? Christopher Jay 18 Lodge Gate Denholme Bradford West Yorks BD13 4RR

Valner's Lair on Spectrum I cannot get through hole or cross bridge help! Danny O Hara, 30 Moor Lane Gomersal Cleckheaton West Yorks BD19 4LE

Return to Eden on CPC 464. After feeding the Ouija bird how do I get the house plant? Any other tips? Steven Miller Oandene Old Station Road, Halesworth Suffolk IP14 8JJ

Hunilla on Spectrum How do I cross the boat without sinking? How do I get in Tylan's chest? C S Rainor 21 Mill Hill Road, Hinckley Leicestershire



Top 10

Vic 20

1	(—)	Mickey the Bricky	(Firebird)
2	(2)	Droidsbug	(Mastertronic)
3	(9)	Flight 015	(Craig Comm)
4	(6)	Perils of Willy	(Software Projects)
5	(3)	Wizard and Princess	(Mel. House)
6	(5)	Psycho Shopper	(Mastertronic)
7	(7)	Space Scramble	(Mastertronic)
8	(9)	Duck Shoot	(Mastertronic)
9	(—)	Phantom Attack	(Mastertronic)
10	(10)	Sub Commander	(Thorn/Emi)

(Compiled by Websters Software)

Commodore 64

1	(3)	Chiller	(Mastertronic)
2	(1)	Airwolf	(Elite)
3	(5)	Booty	(Firebird)
4	(—)	Bruce Jacks Superstar	(Martech)
5	(—)	Daley Thompson's Decathlon	(Ocean)
6	( )	Football Manager	(Addictive)
7	(8)	1985	(Mastertronic)
8	(9)	Ghostbusters	(Activision)
9	(—)	Extra	(Firebird)
10	(—)	Big Mac Man Maintenance Man	(Mastertronic)

(Compiled by Websters Software)

Spectrum

1	( )	Death Star Interceptor	(System 3)
2	(—)	Bruce Lee	(US Gold)
3	(8)	Everyone's a Wally	(Micregen)
4	(7)	Raid over Moscow	(US Gold)
5	(—)	Chuckie Egg 2	(A n F)
6	(—)	Gremlins	(Adventure Int)
7	(1)	Booty	(Firebird)
8	(10)	Finders Keepers	(Mastertronic)
9	(—)	Daley Thompson's Decathlon	(Ocean)
10	(—)	Dukes of Hazzard	(Elite)

(Compiled by Websters Software)

BBC B

1	(—)	Frak	(Aardvark)
2	(5)	Football Manager	(Addictive)
3	(8)	Scrabble	(Leisure Genius)
4	(1)	Snooker	(Visions)
5	(3)	Castle Quest	(Micropower)
6	(—)	Manic Miner	(Software Projects)
7	(—)	Challenger	(Mastertronic)
8	(—)	Mini Office	(Database)
9	(6)	Mr EE	(Micropower)
10	(7)	Star Maze	(Mastertronic)

(Compiled by Websters Software)

Atari

1	(1)	Smash Hits Vol. 1	(English Soft)
2	(3)	Flightstrike Eagle	(Carnesoft)
3	(5)	Attack of Mutant Camels	(Llamasoft)
4	(6)	Computer War	(Atari)
5	(6)	Sub Commander	(Thorn EMI)
6	(—)	Bruce Lee	(US Gold)
7	(—)	Fort Apocalypse	(US Gold)
8	(—)	Mr Do	(Collins)
9	(—)	Blue Max	(US Gold)
10	(7)	Lancaster	(3k Tech)

(Compiled by Websters Software)

C 16

1	(1)	Wizard & the Princess	(Mel. House)
2	(—)	Classic Adventure	(Mel House)
3	(1)	Vegas Jackpot	(Melbourne House)
4	(6)	Games Tape 2	(Melbourne House)
5	(7)	Sorcix	(CRS)
6	(6)	Williamsburg Adv	(Macrofeal)
7	(8)	Games Tape 1	(Melbourne House)
8	(—)	Flight Path 737	(Anirog)
9	(—)	Scramble	(Anirog)
10	(3)	Killer Kong	(Melbourne House)

(Compiled by Websters Software)

Amstrad

1	(1)	Ghostbusters	(Activision)
2	(5)	Jet Set Willy	(Software Projects)
3	(5)	Fighter Pilot	(Digital Intervention)
4	(—)	Sorcery	(Virgin)
5	(4)	World Cup	(Artic)
6	(8)	Flight Path 737	(Anirog)
7	(—)	Chuckie Egg	(A n F)
8	(8)	Snooker (Steve Davis)	(CDS)
9	(3)	Millionaire	(Incentive)
10	(—)	Stock Market	(Amsoft)

(Compiled by Websters Software)

Diary

Event	Dates	Venue	Admission	Organisers
Apple 85	May 9-10 10.00am-6.00pm May 11 10.00am-4.00pm	Novotel London W6	Free in advance from organisers	Database Publications 061-456 8383
Electron & BBC Micro User Show	May 9-11 10.00am-6.00pm May 12 10.00am-4.00pm	New Horticultural Halls London SW1	£3.00 adults £2.00 children	Database Publications 061-456 8383
5th Commodore Computer Show	June 7-8 10.00am-6.00pm June 9 10.00am-5.00pm	Novotel London W6	£3.00 adults £1.50 children	CS Marketing Ltd 01-658 8160

Readers' Chart No 22

1	(1)	Alien 8 *(Spectrum)*	**Ultimate**
2	(3)	Soft Aid *(Spectrum/C64)*	**Various Artists**
3	(2)	Knight Lore *(Spectrum)*	**Ultimate**
4	(4)	Everyone's a Walley *(Spectrum/C64)*	**Mikro-Gen**
5	(7)	Sorcery *(C64/Amstrad)*	**Virgin**
6	(6)	Ghostbusters *(Spectrum/C64)*	**Activision**
7	(–)	Football Manager *(Spectrum/C64/BBC/Electron/Oric/Atmos/Dragon/Vic20/ZX81)*	**Addictive Games**
8	(9)	Impossible Mission *(C64)*	**CBS/Epyx**
9	(S)	Bruce Lee *(Spectrum/C64)*	**US Gold/Datasoft**
10	(10)	Tir Na Nog *(Spectrum/C64)*	**Gargoyle**

Winning phrase No 22: "Naked earl lost in fog" from B Bamberger, Craigdale Road, Hornchurch, Essex who receives £25 Others who came close were "All-night sneaker? Daft!" from T Gurdis of Second Avenue, London and "Adolf Hitler is no great!" from Humphrey Dunn of Shrewsbury

Now voting on week 24 – £25 to win

Each week *Popular* is compiling its own special software top ten chart – compiled by YOU.

And each week we will send £25 to the person who sends in, with their chart votes, the most original (witty, neat or clever – but never rude) phrase or sentence made up from the letters (you don't have to use them all) in the titles of the top three programs in this week's chart, published above.

You can still vote in the chart without making up a slogan – but you won't be in with a chance of winning the prize

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to: Top 10, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP

Voting for Week 24 closes at 2pm on Wednesday May 8 1985 Entries received after that time will not be eligible for inclusion in that week's voting The judges decision is final. Only one entry per individual per week will be allowed

Name .... **My top 3: Voting Week 24**

Address .... 1..

.... 2..

.... 3 ....

My phrase is: ....

New Releases

ONE OF THE BEST

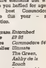
Arnhem is, quite simply, one of the best computer wargames I have yet seen. Visually it's very attractive indeed, with a neat, easily understood map and large chunky units

There are four separate scenarios covering various aspects of the Arnhem operations, and a fifth scenario which links them all together as a campaign game

Giving your troops orders is simplicity itself, using a menu driven system, although after a while it may become rather too basic

You can choose to play a one, two or three player game, although I personally think the only one worth its salt is the option to play the computer I can never understand why companies think people want two player wargames!

Once you have ordered all your units around, you sit back and watch them run. The great thing about the game is that you can change a force's size – small and you can move along roads and cross bridges, large and you fight better On screen, they grow and contract rather like some strange anemone.



I don't know yet how good an opponent the computer makes, but it wiped the floor with me the first two times.

It's also worth noting the new style packaging that CCS are using

Program *Arnhem*
Price *£8 95*
Micro *Spectrum*
Supplier *CCS*
14 Langton Way
London SE3 7TL

COLLECT AND DODGE

'Most irritatingly infectious music' vote this week goes to *Kong Strikes Back*, an Ocean game originally on the Commodore and now converted to the Amstrad.

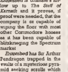
It's basically 'collect and dodge', the plot involving a series of screens of big dippers, complete with roving buggies that move around the track – you climb the track collecting bits and pieces and then rescue the helpless damsel.

Success means knowing when to climb to safety up a ladder and when to make a dash for it over the next bit of track. The music is horribly fairground-like Still the game's pretty addictive

Program *Kong Strikes Back*
Price *£7 95*
Micro *Amstrad*
Supplier *Ocean Software*
Ocean House
6 Central Street
Manchester
M2 5NS

Pick of the week

BLITZKRIEG



Entombed is Ultimate's follow up to *The Staff of Karnath* and it proves, if proof were needed, that the company is as capable of wiping the floor with most other Commodore hoases as it has been capable of blitzkrieging the Spectrum market

Entombed has Sir Arthur Pendragon trapped in the vaults of a mysterious pyramid seeking scrolls which have the secret of escape The scenario, like *Staff*, is in three dimensions, you may move both into the screen and out from it into new rooms and corridors

There are both dangers and puzzles. Puzzles include how on earth to release the giant statue that blocks you way in the beginning and get worse So far I've mastered that, found the magic whip and have wandered about until I die – I think I know what to do with the raven though and next time baddies include a mummy complete with loose bandages, a very angry sounding insect and a scorpion which sounds like it's tap dancing

The graphics are, of course, stunning; wall upon wall of Egyptian drawings and hieroglyphics, a perfectly animated raven, excellent tumbling fireballs and so on

So far my two favourite features are the jump option, where the extremely dignified Arthur Pendragon tucks in his arms like a pair of paws and bounces up and down like a rabbit (it cracks me up everytime) and the whip. The magic whip which replaces the ubiquitous laser gun found in lesser games swishes and cracks with utter realism – you tend to use it just to get the sound effects

Entombed has everything: graphics about ten times better than most other Commodore games and adventure elements that will keep you baffled for ages The best Commodore game this year – no question.

Program *Entombed*
Price *£9 95*
Micro *Commodore 64*
Supplier *Ultimate*
The Green,
Ashby de la Zouch
Leicestershire

This Week

Program	*Type*	*Micro*	*Price*	*Supplier*
Funhouse	Ad	Amstrad	£5 84	Pacific
Death Pit	Arc	Amstrad	£8.95	Durell
Ghostbusters	Arc	Amstrad	£10.94	Activision
Forth	Ut	Amstrad	£19 95	Kuma
Kissin Kousins	Arc	Atari	£6.95	English
Assassin	Ad	BBC	£5.95	Robico
Nightworld	Arc	BBC	£7.95	Alligata
Best Four Language	Ed	BBC	£14.95	ASK
Best Four Math	Ed	BBC	£19 95	ASK
Super Teams	Ut	BBC	£10	Gilvale
Blagger	Arc	C16	£6.84	Alligata
Tower of Evil	Arc	C16	£6 95	Creative Sparks
Entombed	Arc	Commodore 64	£9 84	Ultimate
Gates of Dawn	Arc	Commodore 64	£8.95	Virgin Games
Rock Man	Arc	Commodore 64	£1 99	Mastertronic
Spooks	Arc	Commodore 64	£1.99	Mastertronic
J.B Squash	S	Commodore 64	£7.84	New Generation

New Releases

SKILFUL

Jonah Barrington's Squash is a technically excellent version of the sport of advertising and media people everywhere. It's on computer for those of us whose thighs lack ripple and whose grim competitive determination extends as far as insisting to smaller members of the family that *The Day the Universe Changed* be turned to another channel.

The game play and graphics on both the Spectrum and Commodore versions are very much *Match Point* in style – neatly animated figures and sharp control responses that let you introduce a good deal of skill into the game which, for those of you unfamiliar with it, involves hitting a very small ball against a wall with such determination and force that your face and neck muscles get locked into the kind of facial grimace that made Kirk Douglas the kind of man he is today You also go Eunnnupffffff and earrggggg a lot.

The Commodore version of the game has excellent speech à la *Ghostbusters*, using a technique New Generation call *Reprosound* Here it has Jonah Barrington himself calling "one love, two love, three love " (you get the idea) The speech works fine except that on the version we have there is some sort of but and the second time round Jonah appears to have turned into Harold Macmillan. "oooonnnnnnn lowwwwwwffff, towghooo lowwwwwwfff," etc. Maybe that's what happens to real squash players if they play two games in a row

The speech on the Spectrum version doesn't have *that* fault, but instead, it sounds as though Jonah Barrington has been gagged and tied up in the dressing room 'nnnnn lloooo, terrrr lloooo,", and so on. Personally I think it's pretty addictive and if my neck muscles keep on going the way they are I'll be ready to lead Roman slaves in rebellion any day now

Program *Jonah Barrington's Squash*
Price *£7 95*
Micro *Spectrum, Commodore*
Supplier *New Generation Software*
The Brooklands
15 Sunnybank
Lyncombe Vale
Bath
Avon
BA2 4NA

BURSTING FORTH

Now the Amstrad can run Forth, the programming language where the fundamental concept is the word – a bit like the Old Testament really. Forth has two massive virtues – it is very fast and comparatively easy to learn

The original Forth was a fairly dry affair, concerned with mathematical calculation, lists and the like Consequently versions of the language for home micros tend to be somewhat customised for each machine The Amstrad Forth has, obviously, commands for sound and graphics and also uses the tape as a kind of Virtual Memory System.

The program has also been designed to be compatible with all Amstrad Roms and other extensions to Rom, so should work with the new 664 as well For programming aids there are such useful things as a cursor screen editor and a stack print-out The manual is better than usual – with some effort you might be able to learn Forth with it although a separate Forth manual might still be a good idea.

Program *Forth*
Price *£19 95*
Micro *Amstrad 464*
Supplier *Kuma Computers*
12 Horseshoe Park
Pangbourne
RG8 7JW

RIGHT TRACKS

Mastertronic's marketing techniques may be as subtle as a *Sun* editorial, but you and I get to do very well out of it

Aside from the fact that Mastertronic is causing a lot of companies to start similar budget software operations – expect more announcements soon – the quality of the software at £1 99 is getting very good

Loco Motion for the Spectrum is basically a sliding-block puzzle where what you have to do is rearrange railway tracks such that a little engine can travel along over every square on the screen. It's not original but it's beautifully programmed with sprites, sound effects explosions and lots of smooth movement

Here's an example of the kind of effort that has been put into the game. you can temporarily halt the train whilst you think how on earth you are going to rearrange the track and a stop watch ticks away the time, a little shutter moving round as the seconds pass by It looks marvelous and is the kind of detail that is frequently lacking in considerably more expensive games Buy it

Program *Loco Motion*
Price *£1 99*
Micro *Spectrum*
Supplier *Mastertronic*
Park Lorne
111 Park Road
NW8

This Week

Operation Whirlwind	S	Commodore	**£9 95**	Ariolasoft
QL French	Ed	QL	**£11 95**	Camsoft
QL Bank Account	Ut	QL	**£5 00**	K Goulstone
Ashkeron	Ad	Spectrum	**£5.95**	Mirrorsoft
Funhouse	Ad	Spectrum	**£3 99**	Pacific
BC II Grog's Revenge	Arc	Spectrum	**£9.95**	US Gold
Loco Motion	Arc	Spectrum	**£1.99**	Mastertronic
Type Rype	Ed	Spectrum	**£1.99**	Mastertronic
J B Squash	S	Spectrum	**£7 95**	New Generation
ZX Bigshot	Ut	Spectrum	**£5 95**	Buttercraft
Doodle Bug	Arc	Vic20	**£1.99**	Mastertronic

Key **Ad** – adventure, **Arc** – arcade, **Ed** – education, **S** – strategy simulation, **Ut** – Utility

ANTI-NUKE

Assassin is the latest in Robico Software's series for machine code text adventures of the BBC Its previous offering, *Island of Xaan*, was highly regarded among adventure purists for the quality of its location descriptions and deviousness of the puzzles

Assassin is more of the same text is compressed to prove a substantial game with 220 locations and extensive, atmospheric descriptions This is an adventure with a specific task – assassinate General Garantz who is threatening to nuke the world.

Opening locations are very effective – it took me several goes before I managed to avoid being blown up by the tape recorder containing my orders – it self-destructs and you only get one go to issue the right command. Congratulating myself on this lucky escape I was immediately assassinated myself.

There are characters whose help you'll need and a lot of different problems before you make it to the military base where the General resides Good to see there are still a few programs around that can make you envious of BBC owners.

Program *Assassin*
Price *£9 95*
Micro *BBC*
Supplier *Robico Software*
3 Fairland Close
Llantrisant
Mid Glamorgan
CF7 8QH

ONE-OFF

I am sometimes a little wary of commenting upon certain kinds of educational software, because, apart from anything else, the perception of a program by young children will (sometimes) be different from my own.

That said, I really don't think that there can be any justification whatsoever for the wopping £20 price tag Wiley/Jacaranda software have put on *Raft Away River*, other than what they think the schools will pay A goodish program at, say, £8 becomes a rip-off at that price

Raft Away River is an educational game where the secret of winning is for two or more players to co-operate and set tasks into the right order You are on an island and to survive and move around you will need to eat and build a raft – to do these things you must give the computer instructions in the right order, eg, cut tree, carry logs, etc, and since different players have different objects with them they must do different things eg, one fishes, another cuts the tree, etc

Instructions are simply a matter of pressing a key from A to U – the manual says which key does which action. I'm sure the game does teach some logical thought but the programming involved must have been pretty trivial. Essentially it's a program that can only be played once, although the problem may be solved in a number of ways, since once the basic sequences of instructions are found, that's it

Program *Raft Away River*
Price *£19 95*
Micro *BBC*
Supplier *John Wiley*
Baffing Lane
Chichester
Sussex

SLOW & SUBTLE

Operation Whirlwind is the latest of Ariolasoft's imported American hits to be released It is a wargame in the classic mould but with all commands (well, most commands) issued through the joystick

The game is the kind of things experienced wargamers will love – it's all a matter of working out resources, planning movements meticulously, and using devious tactics There are few concessions to arcade freaks apart from the occasional battle noise, since the computer simply displays a map and the location of units and other defences

It's a game of great subtlety where thought is all and it hardly matters how slow you are on the joystick. What does matter is paying close attention to the movement patterns of the computer's forces and checking relative strengths constantly – know when to stop and dig in for a while

Program *Operation Whirlwind*
Price *£8 95*
Micro *Commodore 64*
Supplier *Ariolasoft*
Retail outlets

JUMP FOR JOY

Blagger is now available for the C16 In the past I have been fairly unenthusiastic about the game and I still find all (well nearly all) the M.M. derivatives somewhat tedious but then this is the C16 we're talking about

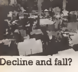
Blagger on the C16 is actually a remarkable programming achievement – the game looks much like the Commodore 64 original and has 20 screens – that's a lot for little memory

The game involves moving a little figure around various wacky screens collecting keys, dodging various wacky objects like lightbulbs and trucks The art is to know when and where to jump Compared with the general level of C16 software it's extremely good

Program *Blagger*
Price *£6 95*
Micro *Commodore 16*
Supplier *Alligata Software*
1 Orange Street
Sheffield S1 4DW

This Week

ASK Applied Systems Knowledge, London House, 68 Upper Richmond Road London SW15 2RP 01-874 6046 **Activision** 15 Harley House Marylebone Road London NW1 01-486 7588 **Alligata** 1 Orange Street Sheffield S1 4DW, 0742 755796 **Ariolasoft** Retail **Buttercraft** 14 Western Ave Riddleson Keighly Yorks, 0535 661493 **Camsoft** 25 Newmarket road Cambridge CB5 8EG **Creative Sparks** Thompson House 296 Farnborough Rd Farnborough hants 0252 543333 **Durell** Castle Lodge, Castle Green, Taunton TA1 4AB 0823 54489 **English** Box 43 Manchester M60 3AD 061-835 1358 **Gilvale**, 10 Sidford Close Hemel Hempstead Herts HP1 2LF 0442 56968 **K Goulstone** 46 Burleigh Avenue, Wallington Surrey, SM6 7JG **Kuma** Kuma Computers 12 horseshoe Park, Pangbourne RG8 7JW 07357 4335 **MastSertronic**, Park Lorne, 111 Park Road, London NW8 7JL 01-402 3316 **Mirrorsoft** Mirror Group Holborn Circus, London EC1P 1DQ 01-353 0246 **New Generation** Freepost, Bath, BA2 4TD, 0225 316924 **Pacific**, Pacific House 44 Buttermere Grove Beechwood Runcorn Cheshire WA7 2RF 09285 61654 **Robico**, 3 Fairland Close Llantrisant, Mid Glamorgan CF7 8QH, 0443 227354 **US Gold**, US Gold Unit 10 The parkway Ind Centre Heneage Street Birmingham B7 4LY 021-359 3020 **Ultimate** Ultimate Play the Game Ashby de la Zouch Leicester, LE6 5JV 0530 411485 **Virgin Games** 2-4 Vernon Yard, Portobello Road London W11 2DX 01-727 8070



Decline and fall?

All the signs would seem to show that the home-computer boom, if not almost over, is certainly on the decline.

Almost certainly one of the causes of the decline we all hear and read so much about is the fickle 'craze' element. Having sampled micros, people are now going on to the next craze, whatever that is.

But another, possibly more significant element is quality. Whatever happened to quality? The lack of it could prove to be a major contributory factor to the demise of the British home computer industry.

Take Oric. On paper the Oric-1 had a much better specification than the Spectrum, better sound (what hadn't(?), an RGB output and Centronics interface built in. The keyboard, although pretty lousy, at least had a slight resemblance to a typewriter keyboard, and was far less confusing for the keyboard novice. The Basic, too, was much better than the Spectrum's toy town version. The early Orics were plagued with video level problems, however, and although these were later fixed, the damage had been done.

Another lack of quality showed in the bug-laden Rom, and rather than offer everyone free (or extremely cheap) Rom up-grades, (a plug-in cartridge would have been perfectly feasible) as I feel they should have done, Oric alienated users by launching the Atmos. This did have a better keyboard, but still drew elliptical 'circles' and lacked what I would call true file handling, only being able to store and recall arrays.

Another case in point is the Sinclair QL. On paper the idea of a cheap machine with an almost 16-bit processor, 128K of Ram, and very high-resolution graphics is pretty good. But how a large company like Sinclair Research could manufacture and sell a machine with such a terrible design fault as the edges of the picture being outside the edges of the TV Monitor screen is beyond me. The QL may be cheap, but this advantage is off-set by the need to buy a specially modified monitor to 'squash' the picture.

The main disadvantage, though, is the microdrives. The spread of independent disc systems for the QL must be an indicator of opinion. No-one would trust important data to those things – I know I wouldn't.

To cap all this, the QL was launched long before it was really ready, and has already gone through several changes of Rom.

If Atari deliver the goods with their ST, offering a proper keyboard, real discs, 68000 processor and GEM as an operating system, I know which I'd prefer to buy.

The computer market seems set to split into three groups.

Firstly, the business user, people with IBM PC's and Apple Macintoshes.

Secondly, the consumer goods market, people who buy home computers like they buy microwave ovens or video recorders or stereos. A prime example of the consumer goods market machine is the Amstrad CPC 464. Coming complete with a monitor and cassette deck, it is a complete take home, plug it in and use system – the music centre of the computer world, with no plates of spaghetti hanging out the back.

The third market? Where it all began, the true enthusiasts. They started it all way back, and they'll keep it going in the original spirit. The enthusiasts want a versatile, expandable, no-limit machine, and are willing to get down where no software exists and write their own, wield a soldering iron, and get to the heart of their machine.

Antony J. Shepherd

Recurring nightmare

Puzzle No 156

The evaluation of reciprocals in decimal form can have some curious results. Take the following examples. The decimal value of ⅓ has a single recurring decimal: 0.33333.

The decimal value of 1/11 has two recurring decimals: 0.090909.

Other reciprocals have an even larger number of decimal places which recur in cycles. For example the decimal value of 1/97 has a cycle of ninety-six such numbers.

Can you determine the 7,6999 digits in the recurring cycle in the reciprocal of 7696? We don't expect you to list all of them – just tell us the eleven digits which are found at the 7000th to 7010th decimal places.

Solution to Puzzle 151

A triangular pyramid of 15 tiers (680 tins) can also be formed into two smaller pyramids of 8 and 14 tiers (120 and 560 tins respectively).

```
10 DIM T(100),P(100)
20 S=0
30 FOR N=1 TO 100
40 S=S+N
50 T(N)=S
60 NEXT N
70 S=0
80 FOR N=1 TO 100
90 S=S+T(N)
100 P(N)=S
110 NEXT N
120 FOR A=1 TO 98
130 FOR B=A+1 TO 98
140 Z=P(A)+P(B)
150 FOR C=B+1 TO 100
160 IF Z=P(C) THEN PRINT P(A);P(B);P(C)
170 NEXT C
180 NEXT B
190 NEXT A
```

A triangular pyramid, or 'tetrahedron', is formed by building successive tiers of 'triangular numbers' ie 1+3+6+10+... The triangular numbers are worked out in sequence and placed in the array (*T*). These are then converted into the corresponding 'pyramidal' numbers in array (*P*). Once this has been done the array (*P*) is tested to determine if two *different* numbers in that array sum to a third such number.

Winner of Puzzle 151

The winner is M A Brocmfield of Leicester Row, Coventry, who receives £10.

Bules

The closing date of Puzzle 156 is May 27

The Hackers

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